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PC GAMER

#350 DECEMBER 2020

Future Publishing Ltd

Quay House, The Ambury, Bath BA1 1UA

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"WE POKE AND PROD AT THE GAME'S TECHNICAL FOUNDATIONS"

**ROBIN VALENTINE**

Specialist in
Hi-tech solutions to low tech problems

Twitter
@robinvalentine

This month
Pretended to understand how ray tracing works.

The moment of truth is almost here for *Cyberpunk 2077*. Since its original announcement over eight years ago(!), it's built momentum like nothing else – and just one more month from now, it'll finally be time for it to show us all whether it can live up to nearly a decade of historic hype.

But, of course, we can't wait that long. Games journalists have no patience. So we've headed behind the scenes to poke and prod at the game's technical foundations, discovering the groundbreaking innovations powering CD Projekt Red's unrestrained ambition. Turns out it's not just the robot arms that are hi-tech in Night City.

Robin

ROBIN VALENTINE
PRINT EDITOR
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The PC Gamer team

**FRASER BROWN**

Specialist in
Big money

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@FraserIBrown

This month
Investigated the Bethesda acquisition – and narrowly avoided being bought by Microsoft himself.

**WES FENLON**

Specialist in
Divine narration

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This month
Explored the world of *Gods & Monsters*. Wait, sorry, they're calling it *what now?*

**RACHEL WATTS**

Specialist in
Nuclear gardening

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This month
Gleefully imagined all the plant life that will thrive after humans are dead. Absolute weirdo.

**JACOB RIDLEY**

Specialist in
God rays, teraflops, and other made up words

Twitter
@RidleyJG

This month
Wrote his first ever PC Gamer cover feature! Bless him.

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DECEMBER 2020

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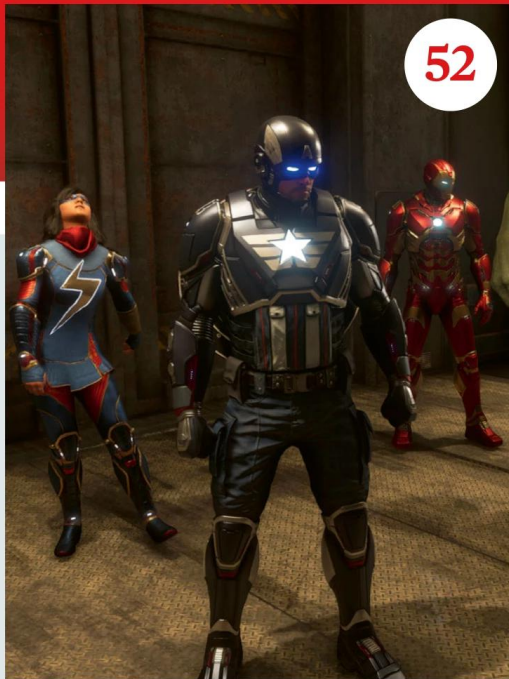
Back in the 1990s, a humble British studio brought a whole new world of terror to PC gaming.



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MONITOR

NEWS | OPINION | DEVELOPMENT



Microsoft is well armed for the impending next-gen war.

BIG GAME HUNTER

Microsoft now owns **THE ELDER SCROLLS**, **FALLOUT**, and **DOOM**

Microsoft has snared itself a huge acquisition, and is now the owner of ZeniMax Media, the parent company of Bethesda Softworks. This means *The Elder Scrolls*, *Doom*, *Fallout*, *Dishonored*, and *Quake* are under the Xbox umbrella.

The deal set Microsoft back \$7.5 billion, making it the second most expensive videogame acquisition in history – just behind Tencent’s purchase of Supercell for \$8.6 billion.

“Bethesda’s games have always had a special place on Xbox and in

the hearts of millions of gamers around the world,” said Phil Spencer, head of Xbox. “Our teams have a close and storied history working together, from the amazing first *Doom*, and its id Tech engine, innovating games on PCs to Bethesda bringing their first console game to

the original Xbox, the groundbreaking *The Elder Scrolls III: Morrowind*. Over the years I’ve had many deep conversations with the creative leaders at Bethesda on the future of gaming and we’ve long shared similar visions for the opportunities for creators and their games to reach more players.”

With the acquisition, Microsoft has snatched up a publisher and 13 studios in North America, Europe, and Japan, along with several notable series and a bunch of tech that more studios can now take advantage of. And with Bethesda and Obsidian part of Xbox Game Studios, have the stars finally aligned for *New Vegas 2*?

**MICROSOFT HAS
SNATCHED UP A
PUBLISHER AND
13 STUDIOS**

ZERO HOUR

FUTURE CLUB FORMS



Former *Skullgirls* developers have launched a new studio called Future Club following a wave of resignations and layoffs after an investigation into allegations of inappropriate behaviour from Lab Zero Games' lead designer. While no games have been announced, expect a lot of hand-drawn 2D art. ■ **RW**



SNAKE CHARMER

CLASSIC MGS



Konami has teamed up with GOG to release a bunch of old games on its platform, the most exciting of which are *Metal Gear Solid* and its sequel, *Sons of Liberty*, which have both been updated to play ball with modern gaming PCs, including support for gamepads. Time to go back to Shadow Moses. ■ **AK**

CHASING FRAMES

CAN IT RUN CRYSIS?



Only days after claiming "there is no card out there" that can hit 30fps at 4K in *Crysis Remastered's* 'Can It Run *Crysis*?' mode, developers were left stunned after Nvidia's RTX 3080 boasted 37fps in the absurd setting. But not as stunned as we all were when the graphics card sold out in seconds. ■ **JR**



ABOVE, TOP: This does at least bring us one step closer to *New Vegas 2*.

ABOVE, BOTTOM: Bethesda's upcoming games won't all be Xbox exclusives.

FALLOUT BOYS

While we wait for the fruits of the partnership, more Bethesda games are going to be making their way over to Xbox Game Pass, both for console and PC. Some, like *Fallout 76*, were already available, but now we're going to start seeing its future games arriving on Game Pass the same day they launch. Even with the recent price hike, the subscription service is immensely attractive, and now it's starting to look essential.

Cuts and redundancies often follow acquisitions, especially when there are big overlaps, but Microsoft plans to leave ZeniMax alone, according to Spencer. That doesn't mean it's taking a completely hands-off approach, but it doesn't look like it aims to restructure the company. It's also honouring commitments made before the deal, like *Deathloop* and *Ghostwire: Tokyo* being timed exclusives for the PlayStation 5.

For the time being, then, Bethesda is still a multiplatform publisher, but one corporation owning so many big studios does raise other concerns. Microsoft now has more influence than ever over the shape of the next generation, and if you don't like the way it does things, or you'd rather not get trapped in the Xbox ecosystem, it's going to be difficult to avoid.

Fraser Brown

Highs & Lows



HIGHS

The Witcher 3

Another edition is coming for free, with ray tracing and faster loads.

Left 4 Dead 2

The Last Stand is a huge fan-made update that's been officially released by Valve.

Microsoft Flight Simulator

Twitch viewers managed to land a plane purely through collective chat commands.

Beyond Good & Evil 2

Beyond Good & Evil creator Michel Ancel is no longer working on the sequel, and has left to work in an animal sanctuary.

Razer

The personal information of 100,000 Razer customers was exposed for several weeks.

Chivalry 2

Chivalry 2 has been delayed until 2021, but at it'll arrive with what were meant to be post-launch additions.

LOWS



The Spy

BUT WHO WATCHES THE SPY?

The Spy is sure it's nothing – just a coincidence – but The Spy spent the last month posing as an intern in Microsoft's Redmond HQ in order to dig up any internal documents that would shed light on the obtuse naming conventions used for its Xbox consoles. Because there *has* to be some guiding principle that would lead a company to go from Xbox to Xbox 360 to Xbox One to Xbox Series X. That *can't* just be a random decision made up on the fly. There *must* be a pattern here.

As it turns out, no. The Spy can reveal, exclusively, that the name 'Xbox Series X' was decided on the spot by a mid-level executive sitting on a beanbag chair and wearing a *Perfect Dark* t-shirt under his expensive sports jacket. This is the world we live in, and The Spy will understand if you need to take a minute to readjust your expectations for reality.

During this time, The Spy chanced upon the company credit card. This, The Spy decided, was the perfect opportunity to indulge in The Spy's latest obsession: atoms, the premium currency for *Fallout 76*. Why? Because if there's no ethical consumption under capitalism, then *unethical* consumption – ie, with someone else's money – is all just shades of grey. And

also because 2020 has been a difficult year, and we all need to find a way to get through, even if that means spending too much time playing an average online RPG.

WHAT HAPPENS IN NEW VEGAS 2 STAYS...

At some point during the Bethesda Store checkout process, there was an error that The Spy was too busy bashing the keyboard to clear for fear of someone noticing a significant amount of company bucks being spent on in-app purchases to read. And then, no less than ten minutes later, it was announced that Microsoft had bought Bethesda. The Spy is *pretty* sure that this isn't The Spy's fault. You can't accidentally drop \$7.5 billion on post-apocalyptic fun bucks, can you?

Whatever the case, Microsoft seems to have embraced the deal, and even its subsidiary studios seem to be having fun in the possibility space. It has not gone unnoticed that Bethesda, the owner of the *Fallout* series, is now part of the same company as Obsidian, creator of the fan favourite *Fallout: New Vegas*. In response to a tweet about *Fallout: New Vegas 2* being a possibility, Obsidian tweeted using an ASCII shrug symbol that, if it had eyebrows, would clearly be wagging them to the Moon and back.

And yes, an Obsidian-led *Fallout* is now an actual possibility. It is known, for instance, that Josh Sawyer, director of Obsidian's two *Pillars of Eternity* games, is not working on *Avowed*, the studio's next major RPG. Instead, Sawyer has revealed that he's directing an unannounced project for the studio. As this was all revealed before Microsoft's acquisition of Bethesda, the timing doesn't exactly line up. But Sawyer was also the director for *Fallout: New Vegas*, and if he *just happened* to be working on a project with a post-apocalyptic theme, well, The Spy doesn't imagine it would be the hardest job in the world to retrofit tab A into slot B.

Still, this is RPG development we're talking about, so

any future announcements are likely some ways off. Maybe we won't even know until the *next, next* Xbox, which The Spy overheard is slated to be called the Xbox Tokyo Drift. Spy out. ■
The Spy

SAWYER HAS REVEALED THAT HE'S DIRECTING AN UNANNOUNCED PROJECT



THE SPY
The Spy is not very good with other people's money.

This month in... 2010



1 It's possible you're scratching your head, thinking, "Wait, which one was this?" After all, hundreds of *Warhammer* games are released every day – it can be hard to keep track. So: *Dark Millennium* was set to be an MMO in the 40K universe, but was still in development when THQ went bankrupt, and so never released. It is a grim, dark future after all.

ISSUE
220, December 2010
ON THE COVER
Warhammer 40,000: Dark Millennium
IN THE CINEMAS
Harry Potter and the Deathly Hallows – P1

2 "The failure to move the series on makes it feel a tiny bit stale," wrote Craig in our 84 percent scoring *Fallout: New Vegas* review. How dare he criticise RPG perfection?



3 A reminder that at one point Popcap was the darling of the casual gaming sector. *Plants vs Zombies* and *Peggle* were both a) triumphs, and b) free from the predatory business practices that would characterise much of the industry. Alas, that goodwill didn't last for very long. We're not saying that it's the fault of EA, who would buy the company in 2011, but...



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Special Report

PCG INVESTIGATES



In the odd world of *Dread Delusion*, state-approved magic is regulated by strange machines.

JAGGED NIGHTMARES

The rise of PS1-style horror games

People have been wondering when indie games would move on from 2D pixel art for as long as people who hate pixel art have had access to comments sections on websites. The thing is, 3D art on an indie budget often looks incredibly rough and somewhat uncanny, where pixel art evokes naive, child-like wholesomeness. A 3D game made on a shoestring budget can look like it came out in 1996.

In the 1990s games with wobbling, low-res textures and characters restricted to jerky movements and freakish faces still seemed freaky to us – which made them well suited to survival horror. It was the era of *Alone in the Dark*, *Resident Evil*, and *Silent Hill*, games that were a perfect fit for their graphical limitations.

Earlier this year, the *Haunted PS1 Demo Disc* collected games that were not on disc and didn't run on PS1. These demos of indie games for PC shared blocky, PlayStation-esque visuals and a sense of creeping dread. *Dead Heat* is set in a New York where zombies live and work alongside ordinary people, and two detectives (one of them undead) work together to solve a murder. In *Sauna 2000* you have to get a Finnish sauna up and running before the sun goes down while being harassed by something inexplicable in the corner of your vision.

DEMON DISC

Then there's *Heartworm*, which looks like the first *Silent Hill* but has a protagonist closer to 1990s Lara Croft. She receives a mysterious videotape one day – a fascination with VHS and other dated media persists throughout these games evoking the technology of the time – and when she watches it is transported to a ghost town full of secret doors and blurred textures.

It's the work of Vincent Adinolfi, who wants to recreate the way games used to be made. "High-res modern game dev is too open-ended – the detail that we can put into games nowadays seems never-ending," he says. "It's intimidating, but I generally like things to be more abstract and less explicit, so I think this style is a great framework for the story I'm telling."

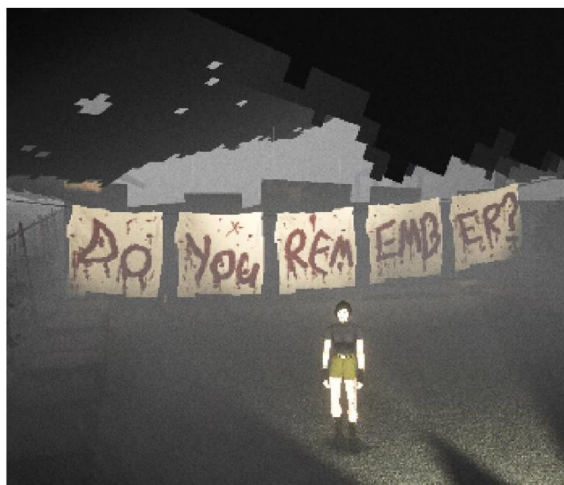
Silent Hill had to work with the limitations of the PlayStation when it was being developed. Knowing they'd be stuck with an abbreviated draw distance, its designers drenched the town in evocative fog and hinted at enemies with wingbeats, footsteps, and radio buzz. *Heartworm* likewise keeps its scares obfuscated.

"Someone commented on a video of the demo disc and said, 'The gaps in detail create space for our brains to speculate wildly, fearfully. Abstraction works because we aren't given the answers'. And I don't think I could have possibly said it better myself."



Anatomy lesson

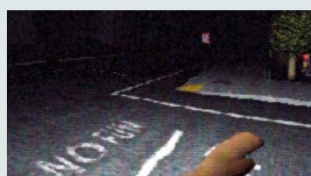
The creepiness of low-poly 3D was previously explored in *Crypt Worlds* (2013), a fever dream first-person RPG where you right-click to piss on things, and *Anatomy* (2016), which traps you in a haunted house, searching for cassette tapes. *Lost in Vivo* (2018) is survival horror that, if played at midnight, transforms into a completely different game. It's a rich legacy.



FAR LEFT: In an ad for the *Haunted PS1 Demo Disc*, a skeleton explains its appeal better than anyone with skin ever could.

LEFT: *Heartworm* is horror the way it used to look.

FURTHER NIGHTMARES *More from the Demo Disc*



ORANGE COUNTY

Tony Hawk's Pro Skater only set in a darkened suburb where malevolent cars might slam into you at any second.



ERASURE

Work the night shift fixing glitched-out dream worlds of 'sim-pod' users in a repurposed hospital.



ODE TO A MOON

Styled like a VHS recording, *Ode to a Moon* uses liberal scanlines and fast-forward jump cuts to disorient.



EFFIGY

A retro FPS like *Amid Evil*, but borrowing more heavily from *Quake*, even down to its distinctive jump grunt.

Dread Delusion is another of the *Haunted PS1* demos, set in a corrupted medieval world under a red sky. While certainly spooky, it's a fantasy RPG first. Its designer, James Wragg, insists there's potential in low-poly 3D games to explore more genres than just horror. He brings up the PS1-era *Final Fantasy* games, with their 3D battles separated by more abstract world exploration, as another example of designers making the most of limitations. "Eventually you're flying around a low-poly globe in an airship, letting your imagination run wild. Just as most readers will always prefer their interpretation of a novel to the film adaptation, I think something has been lost with AAA hyperrealism. It leaves no room for the player's own creativity, and restricts the stories they tell."

Though Wragg keeps an old television hooked up to an original PlayStation when he needs some inspiration, he says his fondness for the aesthetic goes deeper than nostalgia. "There's definitely a magical sensation when I boot up a PS1," he says, "that startup intro stimulates a cluster of neurons from childhood, rekindling a simpler time. But there's more to it than that. Early 3D game design had none of the established tropes of the modern era. It was a new frontier, in which developers had to experiment."

THE FUTURE OF RETRO

Another creator fascinated by the aesthetic of low-polygon 3D is Toni Kortelahti, who makes videos under

the label 98DEMAKE, imagining modern games if they'd been released in 1998. One of his most popular videos, with over two million views on YouTube, takes *GTA V* and drops the draw distance so it extends only slightly further than arm's reach. He sometimes adds PS1 button prompts, or begins a video by taking a CD out of a period-accurate jewel case.

"If you're going to sell your game as 'PS1 styled', it should have the quirks and flaws of the original hardware," he says, "instead of just slapping a pixelation filter on top of regular low-poly graphics. People should be able to immerse themselves into the idea of 'this is running on a PS1', while it of course isn't."

His own games in this style include *OK/Normal*, inspired by a Japanese game from 1998 called *LSD*:

Dream Emulator. A psychedelic experiment in exploring surreal spaces, it

earned cult status for its sheer weirdness. "I instantly loved the crudeness of it," Kortelahti says, "and the fact that there's no clear goals or objectives. The graphics, even for their time, aren't very good. The framerate is awful. The controls are awkward. Yet, it still manages to capture a feeling that I haven't seen captured since."

Indie games will continue exploring the low-poly 3D aesthetic as developers use this self-imposed technical boundary to push at their creative boundaries. Kortelahti has several more projects on the go – including one that's "PS2-inspired" as he's "getting a head start on that style." ■

Jody Macgregor

**"THERE'S DEFINITELY A
MAGICAL SENSATION WHEN I
BOOT UP A PS1"**

Positive Influence

INSPIRATIONS AND CONNECTIONS IN GAMES

GREEN PASTURES

How **ORCS MUST DIE!**'s developer escaped corporate influence

Some ideas are so familiar, so entrenched in gaming history, that it's difficult to remember how strange they were in the beginning. Take *Age of Empires*. Splicing the real-time battles of *Command & Conquer* with the grand strategy of *Civilization* was an odd and unprecedented experiment.

"Back then, the studio was really enjoying the RTS genre, which was still nascent and growing," says Patrick Hudson, who worked for several years as a producer at Ensemble. "There weren't that many big titles established. There was an appetite internally to explore a historical setting."

Thirty million units later, *Age of Empires* feels as fundamental to PC gaming as turning on your monitor. But that success was also confining. Ensemble became trapped by its once-brave formula, unable to commit to new ideas as *Age of Empires* sucked attention and resources. A spy game, a 3D platformer, *Diablo* with pirates – all were subsumed by Microsoft's need for more of the same.

"We tried a lot of different genres and prototyped different things, but it was always hard to push those ideas through the Microsoft machine," Hudson explains. "There was resistance."

Even after Ensemble shut down and many of its staff banded together as Robot Entertainment, those developers still felt Microsoft's corporate influence. Robot's first game was *Age of Empires Online* – a curious RTS that takes on the structure and appearance of *World of Warcraft*. I had wondered whether it shared DNA with the cancelled *Halo* MMO Ensemble had been working on before its demise. But Hudson says that wasn't so.

"The context is important, and at that point free-to-play online games were exploding across Facebook with Zynga," he recalls. "There was appetite within leadership at Microsoft at the time to explore that space and see what opportunities might have existed. Even inside Microsoft, there was some conflict about whether it was *Age of Empires Online* or an *Age of Empires 4*."

MOUSE TRAP

Only once Robot was working independently did its staff regain the experimental spirit that had produced *Age of Empires* in the first place. One prototype for a dungeon-building tool sparked an idea – what if it wasn't the dungeons players were laying down, but the traps and torture devices within? On Ensemble's final project, *Halo Wars*, the team had already begun to lean into tower defence and embrace the immediacy of console controls. *Orcs Must Die!* saw Robot double down on both, with siege missions that asked the player to construct traps and fight off a horde at ground level.

"I don't know how much of that [influence] was unconscious," Hudson says. "The leadership had all worked on *Halo Wars*, so there's no question some of the learnings would have showed up in *Orcs Must Die!*"

Orcs Must Die! and its sequel became, on a smaller scale, Robot's *Age of Empires* – a new genre hybrid that connected with a large audience, bringing success and security. The studio responded not by settling into the formula, but by experimenting further: conceiving a co-op and competitive spin on *Orcs Must Die!* called *Unchained*.

"If we did *Orcs Must Die! 3* at that point, there was a chance it would be a little too derivative," Hudson says. But *Unchained* turned out to be a massive undertaking, and a step too far for the audience: it ultimately shut down, and scores of developers hired to work on it were laid off.

You won't find many traces of *Unchained* online, but the experience still hangs over Robot. This year, the studio did make *Orcs Must Die! 3* (for Stadia, though it's coming to other platforms next year). It's a safe sequel of the kind Ensemble once made for Microsoft.

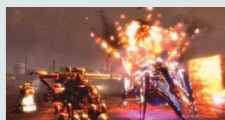
"There were long conversations about how much we could push innovation," Hudson says. "We felt like if we were going to reboot the franchise, we had to play it pretty conservative, and make sure the fans came back to an experience they expected."

Now, Robot's heads have turned to experimentation once more. "We've been encouraged," Hudson says, "to see people enjoying *Orcs Must Die!* again." ■

Jeremy Peel

TWO TOWERS

Hybrid games that mix action and tower defence



IRON BRIGADE

Double Fine invented trench-warfare-on-legs – but rather than send you on a journey, encouraged you to dig in with turrets.



SANCTUM 2

An FPS that demands you waylay enemies with custom-built mazes and rocket emplacements in order to survive.



DUNGEON DEFENDERS

The less famous answer to *Orcs Must Die!* which launched the same month in 2011 and also returned with a sequel this summer.



**“IT WAS ALWAYS HARD TO
PUSH THOSE IDEAS THROUGH
THE MICROSOFT MACHINE”**



ABOVE: *Orcs Must Die!* has become a Robot Entertainment staple.

FAR LEFT: *Age of Empires II* is often considered Ensemble's high point.



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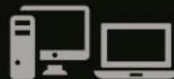
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Evil Genius 2: World Domination

NEED TO KNOW

RELEASE
Early 2021

DEVELOPER
Rebellion

PUBLISHER
In-house

LINK
evilgeniusgame.com

EVIL GENIUS 2: WORLD DOMINATION

No, dear reader, I expect you to die

This is a direct sequel to the cult classic 2004 lair builder of over-the-top spy-fi comedy and action. *Evil Genius* is strategy management unlike any other, and the team at Rebellion knows that. It's more lavishly made, with a more '60s retro flair than the first, but it retains and updates the best parts.

I watched a live gameplay demo and spoke with two members of the EG2 team: producer Ash Tregay and lead designer Rich Edwards. Edwards is an EG superfan, so this is his dream design. He's so enthusiastic that when interviewed for the then-secret project he puzzled out what Rebellion was doing and asked point-blank, mid interview, if it was *Evil Genius 2*.

In *Evil Genius 2* you dig into the nitty-gritty details in the life of an over-the-top spy fiction villain. You build up your base and casino resort cover operation on a tropical island, gathering an army of minions and building infrastructure for your Doomsday Device.

None of this is cheap, and that means stealing a lot of gold. You manage strategy on a world map to accomplish missions, building a worldwide criminal network. You also need armed thugs, media spin doctors, and deadly traps to keep the Agents and Superspies of the Forces of Justice off your back.

To start you'll pick one of four evil geniuses and one of three islands. "The island you choose is your home for the entire campaign," says Tregay. One island has already been shown – the medium option. Another is tall and narrow, with more vertical space. On that island visitors arrive by cruise ship, then take cable cars up to the casino, giving you a bit more time to react to new arrivals. The third

island is squat and round, with a helipad in the middle, like a donut.

Each of the geniuses has their own style: unique campaign missions, specialties, and Doomsday Device. Maximilian is the industrial tycoon of EG1, obsessed with making money. Red Ivan was a mere henchman in EG1, but he's a boss now. The other two are newcomers we don't know much about. "Emma is a Spymaster turned Anarchist with a heavy deception focus, whilst Zalika leans into science," says Edwards.

But we've left the *Evil Genius* world for 16 years, so Edwards describes the story. "We're following a timeline where the Evil Genius conquered the world, ruled it with an iron fist for some time, and then – because these characters are always attracted to the struggle and the underdog approach – they've backed off, and now vanished, leaving a power vacuum."

Red Ivan has been through it. He's lost a hand and gained a metal one, but he still likes explosions and carries a rocket launcher to deal with enemies. "At the start of the campaign he's a deposed warlord," says Edwards. "His country of Ivannia has fallen and he is attempting to rescue people from there."

It's a lot more story than EG1 had. "We put a much stronger focus on the narrative," says Edwards. "We want to make sure we are following the genius from the inception, and all of the challenges you would have to overcome."

APOCALYPSE NOW

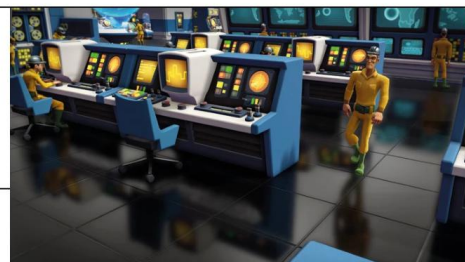
The centrepiece of the campaigns, and of your lair, is the Doomsday Device. Your device is built in stages, but it's not static like EG1: you get to fire it often, reaping risks and rewards on the world map. Red Ivan's is the H.A.V.O.C. device, an unsubtle and roaring red-coated dynamo of a cannon that causes widespread devastation. Ivan's forces then capitalise on the chaos to further his schemes. There's no subtle use for Ivan's, but Maximilian's Midas Device transmutes

FIRST
LOOK

YOU ALSO NEED ARMED THUGS, MEDIA SPIN DOCTORS, AND DEADLY TRAPS

PREVIEW

Evil Genius 2: World Domination



» solid objects to gold – like entire buildings. Max's minions can then go steal the target for some extra income.

As the Doomsday Device progresses, so do a genius' abilities. One of Edwards' favourite examples is Maximilian. At first, Max uses a regular pistol to execute disloyal henchmen or enemies. Later he perfects his Midas Pistol, which turns unfortunates into solid gold statues.

Each Genius' campaign will take 12-16 hours to complete, but that's without doing any side stories. "We've made sure that there's a heap of optional content," says Edwards. Optional missions are how you recruit Henchmen, the Oddjobs to your Goldfinger. They start on the world map as rival crime lords, and only by besting them can you win them to your cause. One returning henchman is Jubei, the master swordsman, now well into old age and hobbling about with a staff.

With all this new stuff, Edwards emphasises that *EG2* is flexible – you can now pause and fast-forward play. "[*EG2*] moves at the pace you're comfortable with. If you do want to spend your time just crafting your perfect lair, you can do that"

There'll be a lot to craft. All 15 room types from *EG1* make a return, but with expanded functions. "So, whilst we have the Infirmary back," says Edwards, "it is also a room you can use to push your minion stats higher than they ever would have been." Continuity was key to Rebellion's process, and they made sure that fans would feel right at home by watching *EG1* Let's Plays and studying bases on player-made planning tools.

Tregay explains their production philosophy. "Taking what the original did well forward and then augmenting and building on that as a foundation," he says. A key feature Edwards preserved from *EG1* was combining rooms. "So in a single area you might have a Barracks with a Mess Hall in the middle and some weapon racks on the side walls," says Tregay, "to really build the lair however you desire, and you'll find that those options open up as you become more familiar."

TRAP FIGHT

Evil Genius 2 looks smooth and responsive in motion, and it really feels like you're

playing a character whose every whim is feared. The interface is more up to 2020 standards, as is unit AI. Minions snap to, and are quick to carry out orders like construction, training and placement. Rooms have new doodads like benches, trophy cases, and potted plants, which have effects like helping minions recover spent stats faster.

Series fan Edwards was excited to simplify the elaborate, deadly traps, "If you put down traps in your lair, and you put them down close together and point them at each other, they just automatically network, straight out of the box." So if you put down a wet bar of soap between a jet-engine fan and a shark tank, for example, the fan knows to start blowing after an enemy Agent slips on the soap.

Easy as it is to design rooms, it's simple to redesign. Rebellion wants you to reconsider base layout throughout the campaign. "Simple lairs with just a small barracks and a small set of defences grow into these multi-floor spanning things with hundreds of minions walking around," says Edwards, "That process takes quite a while for the player to go through, and at every stage they have to make sure that everything is working smoothly."

But it's not all lairs and no spies, so Agents of the Forces of Justice are smarter. That was a major focus of production for Tregay, "The Forces of Justice agents are a perennial threat in *Evil Genius 2*. They're going to be showing up with the same frequency as tourists in your cover operation. They'll be blending in amongst them, coming off the same cruise ships to begin with, and making their way through to the lair itself."

Agents have finally figured out disguises. You might catch someone wandering about in a minion jumpsuit... with a bomb strapped to their back. You then tag them for real minions to deal with. You can also set responses in advance using automation tools, telling minions to escort unwanted guests out of low-sensitivity areas or kill on sight.

As time wound up I had to ask about the best feature from *EG1*: cloning. You could make and sacrifice clones to fake your own death. Will it be in? "Not going to answer that," Edwards laughed. I insist that if it's a sequel, then clones are canonical. "It is absolutely canonical," says Edwards, "but we've made sure that its application is a lot more evil than it used to be." We'll find out more when *Evil Genius 2* releases in early 2021.

Jon Bolding



Minions don't carry weapons, but armouries have them for red alerts.

REBELLION WANTS YOU TO RECONSIDER BASE LAYOUT THROUGHOUT THE CAMPAIGN



PREVIEW

Immortals Fenyx Rising

Is it just me, or do you expect the Lorax to pop out of one of those trees?



Your enemy Typhon likes to make the volcano go all vortex-explodey.



Get back to your labyrinth, bull boy!



NEED TO KNOW

RELEASE

December 3, 2020

DEVELOPER

Ubisoft

PUBLISHER

In-house

LINK

bit.ly/3cmudUEIMMORTALS
FENYX RISINGA very Ubisoft take on *Zelda: Breath of the Wild*

Game design is as incestuous as the Greek gods. Ideas are constantly borrowed and remixed, and for its part *Immortals Fenyx Rising* pulls heavily from *The Legend of Zelda: Breath of the Wild*. Then it adds in RPG-lite systems, burying *Zelda*'s inspiration under a mountain of stuff to do. Basically, it's a Ubisoft game. But it's a very cute one.

For those confused – yes, this is the artist formerly known as *Gods and Monsters*. It's a dreadful name change, but the rebrand does also reflect that it's changed a fair bit since it was first revealed.

In a three hour demo, I got to strike out and explore a chunk of the open world with a welcome lack of guidance. I found puzzle dungeons, dead ringers for the shrines in *Breath of the Wild*, and huge cliffs to climb, which hammered home a wonderful sense of hands-off freedom.

The thing I didn't expect was the introduction of a pair of Greek legends, Zeus and Prometheus, as constant narrators, heckling me like The Muppets' Statler and Waldorf. They bring a strong sense of humour, which helps differentiate *Immortals* from other mythology-based games. The cartoony aesthetic also has a family friendly vibe – this is as far from *God of War* as you can get. At one point, I tamed a nice elk by patting it on the head.

The highlight of my demo was finding puzzles out in the open world and getting sidetracked from my objective. None of the ones I did were especially original

– expect a lot of putting cubes on pressure plates and figuring out how to roll big spheres into holes in the ground. But running into a meaty, multi-part puzzle out in the open world was still a fun experience, because *Immortals* avoids over-explaining everything.

ALL GREEK TO ME

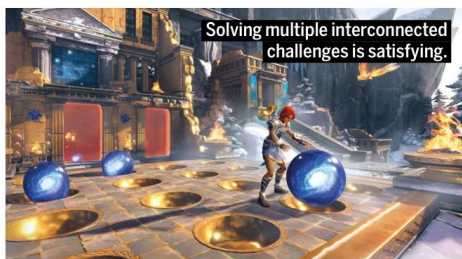
The rewards for solving those puzzles highlight where *Immortals* hews closer to other Ubisoft games than *Zelda* – expect to get equipment with stat bonuses and skill points you use to upgrade your way through an ability tree. If you played *Breath of the Wild* and wanted a more traditional upgrade system, then this will be the game for you.

Combat is definitely more complex than I expected, eschewing *Zelda*'s simple sword swipes for parrying, dodge rolling, combos, and a whole pile of extra powerful skills added on top. There are generous windows for dodging and parrying attacks, and pulling off one of those moves lets you really wail on enemies as they're slowed down for a few seconds after missing. The timing is fun, just precise enough to be satisfying but vastly easier to pull off than in action games like *Sekiro*. Given how easy it was, though, the combat seems overstuffed – full of more unlocks than it needs, and I never felt like I needed to learn how to use my moves well. I could mostly just button-mash.

But I honestly had more fun with this demo than I did with *Assassin's Creed: Valhalla*, which feels as formulaic as big-budget games can get. *Immortals* borrows heavily from *Zelda*, for sure, and then adds many layers on top to make sure you're always earning new gear and points to spend and toys to play with.

Immortals can't live up to the depth and perfect restraint of *Breath of the Wild*'s sandbox, but the sense of freedom remains. It's telling that the main way I travelled in *Assassin's Creed: Valhalla* was holding down a button for my horse to automatically gallop to my next quest marker, while in *Immortals*, I set a marker for the far corner of the map and found myself climbing, gliding, and swimming my way there. In moments like that, you can tell *Immortals* cribbed from the best.

Wes Fenlon

PLAYED
IT

**I HONESTLY HAD MORE FUN
WITH THIS DEMO THAN WITH
ASSASSIN'S CREED VALHALLA**

PREVIEW

Prince of Persia: The Sands of Time Remake

The Prince is a good a parkourer as any assassin.

NEED TO KNOW

RELEASE
January 21, 2021

DEVELOPER
Ubisoft

PUBLISHER
In-house

LINK
bit.ly/3mJlr8a

PRINCE OF PERSIA: THE SANDS OF TIME REMAKE

FIRST LOOK

The classic platformer, rebuilt in a modern engine

This remake of 2003 action-platforming classic *Prince of Persia: The Sands of Time* is being built with *Assassin's Creed's* Anvil engine, which is a little ironic, because *Assassin's Creed* was originally going to be a sequel to *Sands of Time*. "It's the circle of life," says senior producer Annu Koul.

Koul works at Ubisoft Mumbai, which is building *The Sands of Time Remake* in tandem with Ubisoft Pune, where game director Pierre-Sylvain Gires is based.

On top of a general graphical redo, the character animations from the original *Sands of Time* have been reenacted with mocap. "We decided to leverage motion capture, first of all, to enhance the cinematic parts with facial capture, to bring more emotion to them," says Gires.



OLD FRIENDS

Yuri Lowenthal is reprising his role as the Prince, while Supinder Wraich now plays Farah. In the original, the two leads never actually met in a recording booth, or met at all, according to Gires. Having both Lowenthal and Wraich acting together allowed them to reenact the drama and comedy of the original with more emotion.

Regarding how it plays, the important thing to know is that you can mess with time, which was the thing to do following *The Matrix* in 1999 and *Max Payne* in 2001. That means pausing and slowing time, as well as rewinding combat or platforming mistakes for do-overs, something that's become a minor design cliché over the decade and a half that has followed the original.

In the remake, the combat and platforming animations have also been motion captured, although the goal has been to recreate the charms of the original with modern techniques, not to turn it into *Assassin's Creed*. The biggest overall change, according to Gires, is the camera. "The free camera will allow you to properly frame your combat," he says.

A combat targeting system has also been added, as well as difficulty modes. The developer has attempted to replicate the balance of the original with the normal difficulty setting, but there will also be an easier 'story mode' and a hard mode. In the latter, "you have to be very particular about which moves you use," says Koul.

In the past, Ubisoft Pune and Ubisoft Mumbai have supported the development of projects led elsewhere, such as *Far Cry 5*, which was headed up by Ubisoft Montreal and Ubisoft Toronto. This is the first game being led by Ubisoft's studios in India. "It was an honour ... for us to leverage our experience to [recreate] detailed environments such as the Maharaja's palace," says Koul.

Tyler Wilde

RECREATING THE CHARMS OF THE ORIGINAL WITH MODERN TECHNIQUES



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PREVIEW

Graven

Magic does damage, but is more effective as a "strategic" tool.





NEED TO KNOW

RELEASE
Late 2021

DEVELOPER
Slipgate Ironworks

PUBLISHER
3D Realms

LINK
bit.ly/2SetvQp

GRAVEN

A *Hexen*-inspired shooter that aims to take us back to 1998

Graven is a spiritual successor to the *Hexen* games, but it promises a much deeper experience than its predecessors. “Graven is *Hexen 3* – kind of,” 3D Realms chief Frederik Schreiber tells me during a recent preview session. It’s the game that Raven Software would’ve made in 1998, if 1998 was now.

Schreiber describes *Graven* as an “action-adventure puzzler, with a few RPG elements here and there”, including quests, spells, and upgrades. It certainly looks like an RPG at the outset: as a priest of the Orthogonal Order, you’re convicted of a crime you didn’t commit and cast into the midst of a heretical conspiracy when your death sentence is interrupted by a divine being who’s not supposed to exist. You wake up on a boat sliding through a thick, dark swamp, which eventually deposits you into a city where your adventure begins.

After wandering around and smashing some stuff on the docks, which doesn’t bother any of the bystanders in the area, Schreiber took us to the game’s first quest-giver, who wanted us to rekindle the lighthouse that’s slowly sinking into the bog. This is where *Graven* starts to demonstrate that despite appearances, it is not an RPG: there are quests to complete, but your real job is to shoot and hack a whole lot of creepy monsters.

MAGIC MISSILES

You’ll have a variety of ranged and melee weapons at your disposal – my demo

featured an auto-firing crossbow and a big sword – each of which will have three upgrades that can be purchased over the course of the game. You’ll also wield a staff and spellbook, which unlike weapons cannot be dropped or swapped around. Interestingly, while magic is a central part of the game, Schreiber said it’s more of a “strategic” tool that’s not really meant to provide offensive firepower.

“[Spells] do deal some type of damage, but if you only want to deal damage, using weapons is better,” he explains. “For instance, you can use the Enflame spell to melt stuff, you can use the Discharge spell to electrify or stun things and so on – and then switch over to a sword and kill them while they’re stunned.”

Spells will also take advantage of some of *Graven*’s more complex underlying systems, enabling the sort of emergent interactions that simply weren’t possible in the days of the original *Hexen*. “At later points in the game, the lightning spell Discharge can also be used to magnetise igneous rock, which can pull away enemy projectiles if they’re metal, and can also be used to suspend gates open and things like that,” lead designer David Queener tells me.

It will be up to players to discover most of these possibilities for themselves, which is where the ‘puzzler’ part of *Graven* comes into play: developers want to do just enough handholding to set players off on the right path, while otherwise leaving them to their own devices. That’ll also be true of the game world itself, much of which will be hidden away from players who don’t take the time to explore it.

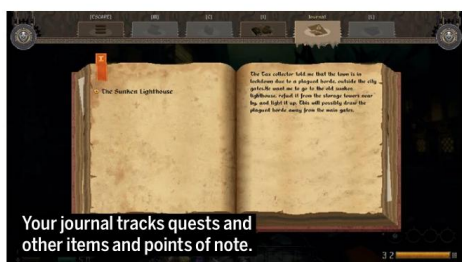
Schreiber and Queener cited some unexpected influences on *Graven*: *Hexen*, obviously, but also *Symphony of the Night*, *Grim Dawn*, *Stalker*, and even *Dark Souls*, although Queener emphasised that it’s not a *Souls*-like. At the same time, 3D Realms aims to keep *Graven* as “authentic” to its roots as possible, which means sticking to a limited colour palette and “very strict rules” about textures and triangles, Schreiber tells me.

“But in terms of the openness and how big you can make the levels and enemies and mechanics and so on, we’re just going to take it as far as we can take it.”

Andy Chalk



Yes, you can kick the bad guys.



Your journal tracks quests and other items and points of note.

YOU’LL HAVE A VARIETY OF RANGED AND MELEE WEAPONS AT YOUR DISPOSAL

EARLY ACCESS PREVIEW

No Umbrellas Allowed

Half-heard conversations reveal a city under stress.

So his apartment's going to be empty from 9. We must take that chance.

Welcome to Darcy's, the second-hand shop. I've been running this place for more than 30 years.

Lesson learned: never trust kind, old grandpas.

Good grief, you look like a poser
who's trying to show off that they
can paint.

Nice to see Bob Ross' amazing hair made it down the family bloodline.



NEED TO KNOW

EXPECT TO PAY
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DEVELOPER
Hoochoo Game Studios

PUBLISHER
In-house

LINK
hoochoo-game-studios.itch.io

NO UMBRELLAS ALLOWED

Time to separate the trash from the treasure

In *No Umbrellas Allowed* you're put in charge of a seedy second-hand shop located in a rabble of stores in a dystopian tower block. It's the kind of shady district where people are looking to make a quick buck, and you'll have plenty of clientele that are desperate to cash in quickly.

Did I mention this is a dystopia set decades in the future where humans have started to take emotional suppressants to numb their feelings? To make things weirder, the government has made the use of umbrellas illegal – there's hushed talk among the city's residents that it's because there's something not exactly natural in the raindrops...

But you don't have to worry about that for now! Running a second-hand shop in 2080 is a great way to make money, but one that you didn't have a choice in. After washing up on the shores of Ajik city with no memory, an old man and seemingly good samaritan called Darcy rescues you, gives you a place to stay, a job running his 30-year-old second-hand shop, and also says that you'll be pretending to his son who has been missing for ten years. Nothing strange here in the slightest.

RAIN CHECK

Although Darcy is the owner, you'll be the one managing the day-to-day goings-on in the shop, which involves buying items from customers, bargaining with their prices, and then selling those objects for a

profit. It plays out similarly to *Papers, Please*, where you have a number of tools to help you evaluate decisions, and challenges you with moral choices that will affect the game's story.

Interactions with customers are a delicate balance of making them feel they've gotten a good deal, but also keeping prices low – get it wrong, and you'll annoy people, or lose money. Customers can be a little tricky when selling their items, and will always want more cash regardless of the quality of the item. These can be anything from a smelly pair of old socks pulled from the washing basket, to a bundle of historical newspapers found in the back of an attic.

Figuring out what's actually valuable and what is dressed up garbage is where the fun of the game lies. It's your job to see what is worth buying with a keen eye and handy toolkit. There are tools that let you work out how good the condition of an item is, how valuable the material is, and when it was originally produced, which all impact the value of an item. And it's up to you to use these tools effectively.

When you work out the fair price of an object, you'll begin to start negotiating with the customer, punching numbers into a clunky calculator until you come to an agreement. Then as soon as they're out the door, you whack up the price and put it up for sale. Did I mention that you're in debt to Darcy for him rescuing you, and that you need to pay him back sharpish? Well, you are, so the pressure's on to make a good, quick profit. Turns out that sweet old man isn't so sweet after all.

No Umbrellas Allowed's Early Access build lets you play 20 in-game days out of the complete 40-day run time, and I'm certainly intrigued to find out more about this desperate future. Currently the developer reckons it'll have the game finished by August 2021, though it's not set a firm date.

I'm keen to learn more tricks of the trade as a second-hand shop owner and there are, surprisingly, quite a few to learn. My number one lesson is that no matter how unlikely it seems that someone will buy a pair of dirty second-hand socks, there's always a customer for everything... for the right price, of course.

Rachel Watts

PLAYED IT



RUNNING A SECOND-HAND SHOP IN 2080 IS A GREAT WAY TO MAKE MONEY

Cloud Gardens

Who knew that concrete car parks were perfect for gardening?



Dioramas can be as small as a street sign to as big as a greenhouse.

Switch between plant cards to get different types of seed.





NEED TO KNOW

EXPECT TO PAY
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DEVELOPER
Noio

PUBLISHER
In-house

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noio.nl

CLOUD GARDENS

A quietly beautiful vision of the post-apocalypse

There's something poetic about nature taking over urban spaces. The half-vegetation, half-concrete landscapes of games like *The Last of Us* and *Nier: Automata* possess an eerie beauty that's far more appealing than your usual desolate wastelands. It's like a glimpse into another time, one where the end of the world maybe doesn't look so bad.

Cloud Gardens developed by Noio is very much Team Plant in the post-apocalypse. It's a calm gardening sim that celebrates how vegetation can reclaim the ruins of humanity. The empty steel and stone shells of forgotten buildings become the perfect playground for greenery to thrive and it's your job to breathe new life into these gorgeous dioramas.

Each vignette tasks you with covering the entire scene with lush vegetation by planting seeds and helping them to grow. Each seed thrives in different ways depending on its surroundings and, just like with other gardening games, deciding where your plants will grow best is key, even if you are in the ruins of an abandoned parking lot.

For example, the ivy-like plant thrives when it's given a wall or structure to climb, making it perfect for covering the sides of buildings. But the pink floral plants, which look a bit like alien-esque fuchsias, grow best when they're hanging from lampposts or road signs.

Once you have planted your seeds, it's time to nurture your greenery, and you can do this by placing salvaged objects

within the scene. These objects are pretty much stuff you would find in a scrap heap, and can be anything from empty beer bottles to hulking empty caravans. They seem like trash at first, but when placed within the diorama, they give energy to the plants and help them grow.

It might seem a little counterintuitive to be placing trash in your wonderful garden, but it works really well with the setting. This delicate balance of plant life and urban objects cleverly transforms something like a rusty old trolley into an important accessory in your perfect post-apocalyptic vignette.

In this way, *Cloud Gardens* is like a meditative puzzle game. Each level has a plant meter that fills up when you successfully coax your plants around the space. As the vegetation thrives they will produce more seeds which means more plants, and when the meter reaches its target you're free to move onto the next scene in a long string of vignettes.

FERTILE GROUND

What I love about *Cloud Gardens* is that it turns the most unlikely spaces into a plant paradise. Refrigerator graveyards, long-forgotten apartment blocks, and dusty wastelands become the perfect gardening spots. There's something so satisfying about watching plant life slowly reclaim places where they had previously been removed so humans could fit. I'm in love with the greenhouse levels where the plants slowly take over huge glass structures that were previously meant to contain them.

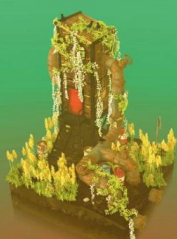
Cloud Gardens has a six-chapter campaign and its Early Access build lets you play three of those chapters, with a small tease of the fourth one.

Noio's previous titles, *Kingdom* and *Kingdom: New Lands*, were strategy games about building a civilisation, but *Cloud Gardens* is all about generating life on a civilisation that is lost. I love the new direction the studio has taken and I'm left really excited for the full game.

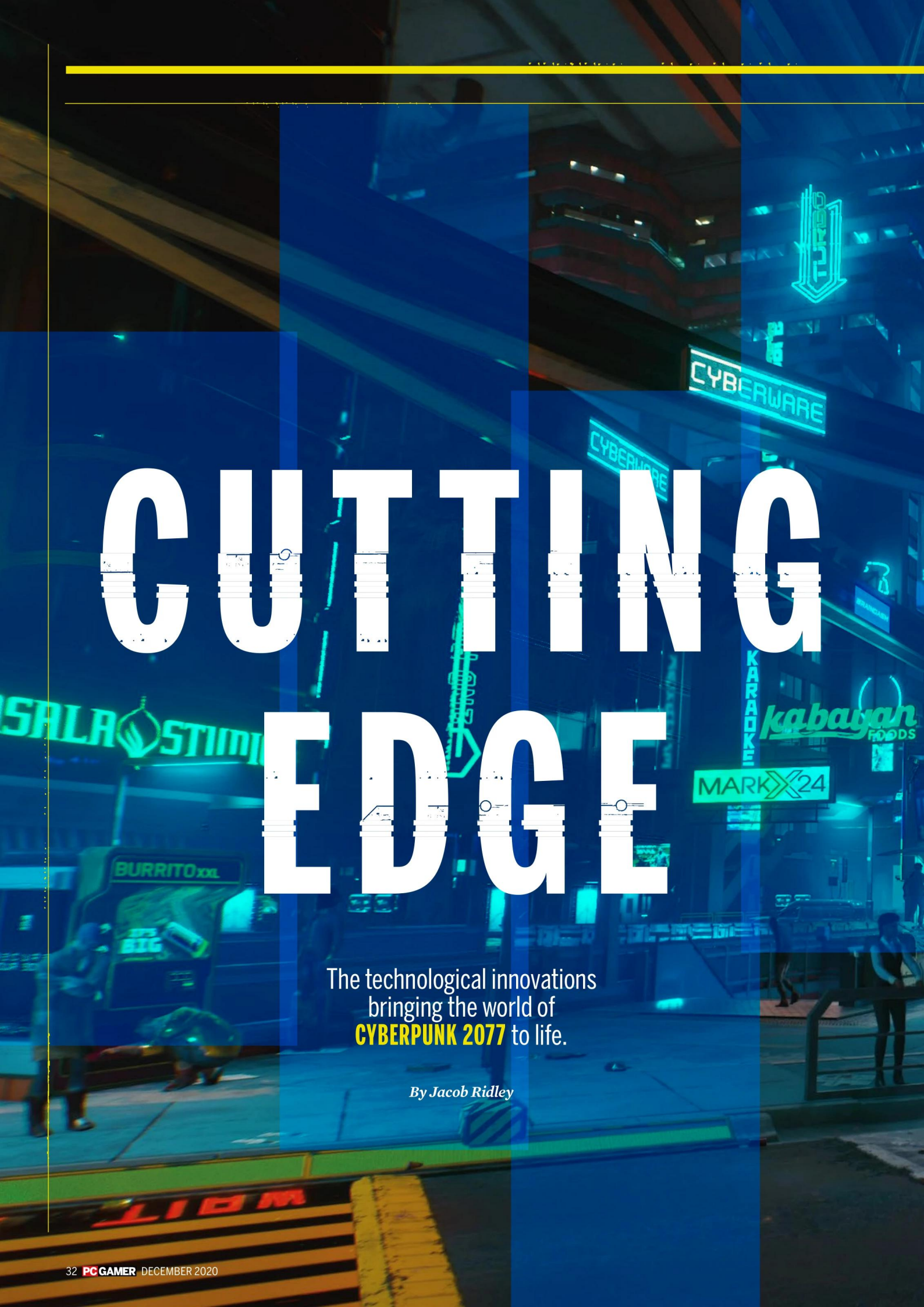
Cloud Gardens is out in Early Access and, according to the Steam page, will stay there for at least three months. There's no set release date yet though – but if there's one thing every gardener needs to learn, it's patience.

Rachel Watts

EACH SEED THRIVES IN DIFFERENT WAYS DEPENDING ON ITS SURROUNDINGS



Although they look enticing, don't eat the pink puffs.

A vibrant, neon-lit street scene from the game Cyberpunk 2077. The image is dominated by blue and green neon lights. In the background, a tall building features a glowing 'CYBERWARE' sign. To the right, a 'KARAOKE' sign is visible above a 'kabayan FOODS' sign. In the foreground, a 'BURRITOxxl' sign is on the left, and a 'MARKX24' sign is on the right. The street is filled with futuristic cars and pedestrians, creating a dense, urban atmosphere.

CUTTING EDGE

The technological innovations
bringing the world of
CYBERPUNK 2077 to life.

By Jacob Ridley





ive years on and *The Witcher 3: Wild Hunt* remains, in quiet defiance, at the top of our Steam libraries and perpetually ready to play – a testament to the ambition and sticktoitiveness of the studio that built it. But if you thought that meant CD Projekt Red stopped innovating for even a second, think again. The developer has been continuously adapting and building a new set of tools for what's to come. When it launches this November, *Cyberpunk 2077* is promising to deliver something even bigger, the culmination of years of work on an ever-evolving engine by a team that simply refuses to sit still.

"The engine is like a living organism, almost like a cellular automata," Krzysztof Krzyscin, technical art director, CD Projekt Red, says, "constantly evolving, mutating, and expanding from its initial set of

cellular automata and the REDengine are in a constant state of flux.

Unlike a cellular automata, however, the REDengine requires human effort, and lots of it. It's what CD Projekt Red has been working on ever since *The Witcher 3: Wild Hunt*, so that it may form the basis of its next game, *Cyberpunk 2077*. The resulting metamorphosis affects millions of lines of code and introduces many new and experimental features that will make this version of the REDengine difficult to recognise from the one that brought you such memorable sights as Geralt in a bath tub.

"MAINTAINING, DEVELOPING, AND OPTIMISING A GAME ENGINE REQUIRES HUGE EFFORT"

branches." The engine in question is CD Projekt Red's proprietary REDengine, which made its first appearance with *The Witcher 2: Assassins of Kings*, and the cellular automata is in reference to mathematician John Conway's *Game of Life*, a zero-player game that follows a collection of cells that evolve and adapt in response to a simple set of four rules, and thus do not require human interaction. What these two things share is their ability to continuously adapt – both the

RED ALERT

While each new game is a technical leap for CD Projekt Red, they're also just as much a product of all the lessons learned during the development of those which came before. *The Witcher 3: Wild Hunt* was the culmination of years of game development and years of engine evolution. That game's legacy has set expectations high for *Cyberpunk 2077* and the REDengine, now set for its fourth major iteration.

"There are pros and cons of having your own engine to make games," Krzyscin tells me. "First of all, maintaining, developing and optimising a game engine is technically complicated and requires huge effort. Imagine four million lines of code where even small changes in a non-related system have a big chance to cause issues or introduce bugs." It sounds like a near-impossible task, but Krzyscin sees it as just as much of an opportunity. "Being able to change

MAIN: You think this is atmospheric now? Just wait until the sun goes down.

BOTTOM LEFT: Body modifications have come a long way.



whatever we want creates a perfect environment for ambitious, crazy people with, well, let's say non-standard ideas."

In *Cyberpunk 2077*, these 'non-standard' ideas take form in a huge variety of features. From accurately layering items of clothing for the fashion-forward punk icons, to true-to-life traffic light systems, to accurately mapping the minutiae of brow movements for the game's urbanite cast – *Cyberpunk 2077* is promising an eye for detail at an extraordinary level.

The vast titular jungle of *Cyberpunk 2077* is not only a visual departure from the war-torn countryside of Velen or the bustling port of Novigrad, it required a complete redesign of the underlying technology. Processing the increasing amount of data associated with the jump to a technocratic city is no small feat – much like how modern

TECH A LOOK *Cyberpunk 2077's shiniest features*



LAYERED FASHION

A new dynamic clothing system allows you to layer up in every which way you think best without tearing textures – even a bulletproof vest over a fluffy winter coat. Work it.



CAR DESTRUCTION

Using an approach based on structural analysis simulation, every vehicle type in *Cyberpunk 2077* will fall to bits in a unique way. Your idiotic crashes will look incredible.



PROXY SYSTEM

Delivering scaled-back in-game models for use at a distance from the player camera, this clever system means your PC doesn't have to sweat the small stuff from miles away.

metropolitan areas require complex management, so too does Night City.

"There were so many things in *Cyberpunk 2077* that we just didn't have to do for *The Witcher* games," Krzyscin explains. "Safe to say, it goes an order of magnitude beyond Novigrad, in any aspect. Rendering, IO and memory management – all that needed to run on steroids now."

Krzyscin lists off sweeping changes on the way for REDengine. "After *The Witcher 3*, we

immediately knew what aspects of the engine needed updates." There's a brand new lighting pipeline with support for a full day/night cycle. Further environmental upgrades such as volumetric clouds and fog bring engrossing new elements to the environment and opportunities for that new lighting system and a multitude of ray-traced effects to shine. A brand new shared material library allows developers more time to sculpt detail into textures, the results of which will be present all around you in-game. CD Projekt Red has even gone as far as implementing simulation-based dynamics for liquids and clothing so they flow and interact with one another just like in real-life.

And that's just that which is evident on the surface with *Cyberpunk 2077*. Behind the scenes, the studio has implemented multi-layered shaders, which allows for a leap in effective texel density on screen – that translates to crisp, detailed environments. There's a new async compute pipeline, to better make use of brand new graphics hardware built for DX12, the new API of choice for *Cyberpunk 2077*. Lastly, there's a system for procedural asset generation, allowing for attention to detail on an unprecedented scale.

"Essentially, we made the engine highly customisable," Krzyscin says.

NEON JUNGLE

The jewel in the crown of Nvidia's RTX roster, *Cyberpunk 2077* will feature a breadth of ray-traced effects courtesy of a technical partnership between the two companies. Diffuse illumination, reflections, ambient



Cyberpunk 2077

occlusion, and shadows will all be enhanced, improved upon, or enabled with real-time ray tracing.

"Cyberpunk 2077 is an extremely complex game, both in terms of scale and also due to the design of Night City itself," says Jakub Knapik, art director of lighting and FX at CD Projekt Red. "We have an extremely vast cityscape with a huge amount of verticality. These factors make lighting Night City extremely demanding as we cannot use any pre-baked lighting systems, solutions so commonly used in games."

Even though we're closer than ever to broad ray tracing support across all manner of PC graphics cards and consoles, it's far from ubiquitous. And so *Cyberpunk 2077's* lighting system has to be scalable, function across all platforms, and deliver a comparable experience no matter where you play.

"We implemented ray tracing into our engine to work as a hybrid solution, meaning that we can replace certain systems with its ray-traced version," Knapik explains. "For example, our core global illumination system uses light that comes from the sky, sun, and all location light sources to dynamically produce bounced light. In ray tracing mode, we use our main GI to produce only the bounced light, while the main light that comes from the sky is ray-traced, giving it much better shaping and details in shadows."

Furthermore, players can expect ray tracing to amplify the soft shadows of super bright emissive objects, like billboards or neon signs, of which there's sure to be plenty in Night City. Knapik explains how each effect only serves to further build on the sense of place ingrained into the architecture of Night City – that reflections, shadows, lighting, and emissive surfaces "all feed into both capturing the vibe of Night City, in all

its cyberpunk glory, and also making it feel as real as possible, to help bring that immersion even closer".

I'm told that the plan has always been to create visual parity between settings and hardware, however. Latest ray-tracing compatible hardware or no "the game will look more realistic, accurate, and beautiful in its own right, with all the added quality of ray tracing pushing some details even further". And those

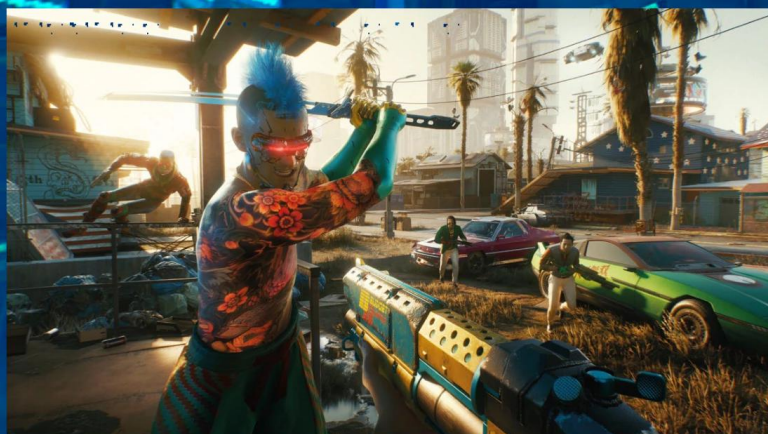
are sure to be soothing words for those pushing older hardware into 2020 and beyond.

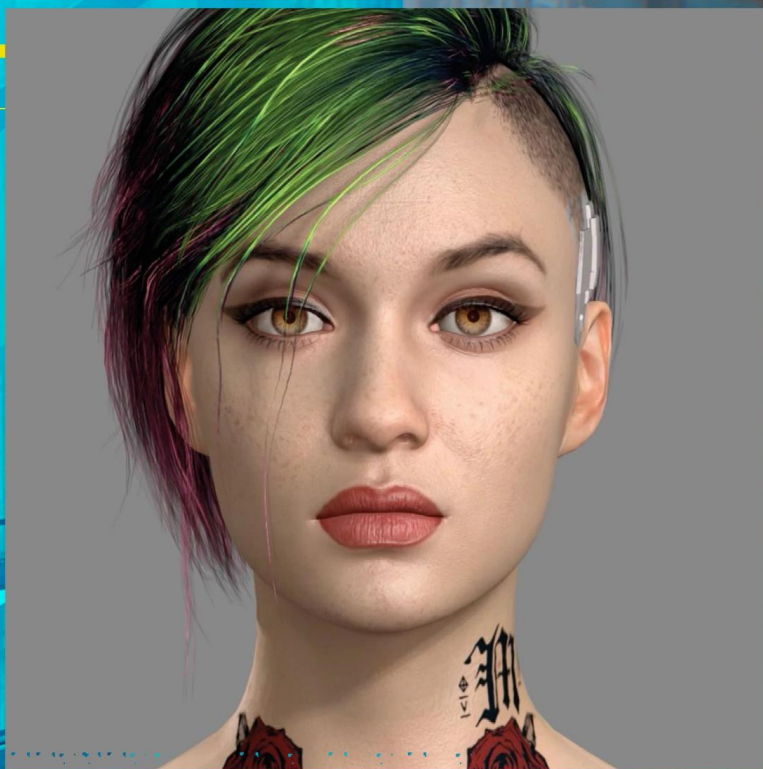
"With *Cyberpunk 2077*, immersion is always our guiding goal," Knapik says. "We want players to actually feel like they're in Night City, that they're a part of this dark future megalopolis. We want to make it a place where players can lose themselves in and feel great about it."

But the implementation of ray tracing at an early stage of development was as much a consideration for CD Projekt Red as creators as it was one for players. "One critical factor for me as an art director is setup time, as it makes iterations not only faster but far more predictable," Knapik explains. "In an open-world game, setup can sometimes be tricky and very time consuming to meet the desired look within the performance budget

MAIN: Night City's design is as much about scaling up as it is about scaling out.

BOTTOM LEFT: Now that's what I call cutting edge! Eh? Eh?





window. Whenever we need to make a specific location ready, there is always some time spent in pure technical setup before anything else can happen. Ray tracing brings simplicity to the table. For artists, the easier it is to get a first visual draft, the better – ideas are fresher and we can have more iterations quicker, which will hopefully speed up the process in the future.”

CITY SLICKERS

But visualising Night City is only step one – CD Projekt Red must then realise it across a wide gamut of hardware and software. “What we realised while making *The Witcher 3* is that no matter what technology we want to implement next, it has to be scalable,” Krzyscin says. “It was our motto from the very beginning, and this also quietly assumes that the game should maximise the current hardware you have.”

Clearly with a planned release across a near-complete sweep of PCs

and consoles, CD Projekt Red has its work cut out for it in achieving such an ambitious goal. As such, scalability is built into every system to be included with *Cyberpunk 2077*. From its minimum system requirements, which request only an Nvidia GeForce GTX 780 3GB or better for 1080p gaming at low settings, to dealing with a sprawling cityscape and all of its weirdo inhabitants at an up close and personal level – *Cyberpunk 2077* has built-in tools and functionality to let it deal with all of those issues.

“THIS ALSO QUIETLY ASSUMES THE GAME SHOULD MAXIMISE THE CURRENT HARDWARE YOU HAVE”

One such tool is a hierarchical geometry simplification pipeline, or proxy system, dedicated to managing high-resolution textures. It essentially creates simplified in-game models from the high-resolution models that are prepared by artists, those which would otherwise be too unwieldy to use for an entire scene on today’s hardware. High-resolution models

are loaded around the player camera alone, while these low-res proxies are kept at a safe distance from a player’s discerning eyes. You might not notice much of a difference during gameplay, if any, but this allows *Cyberpunk 2077* to fit within a reasonable amount of memory – a vital measure to ensure wide compatibility and performance.

This is far from the only system dedicated to cutting down computation and memory load with a project of such scale. Many systems with equally highfalutin technical titles are coming into play for *Cyberpunk 2077*. A node-based lattice system cuts resource load from vehicle destruction. Yes, better bespoke wreckages. Distributed computation, sometimes days of number-crunching, is put to work chewing on data for that expansive global illumination system, and similar processes are employed for terrain tiles, navigation data, and even acoustics in order to deliver a map that needn’t sacrifice beauty for scale.

Managing all that data and all those assets required multiple supporting tools. A handful of which were developed just to support *Cyberpunk 2077*’s creation. “It was quite the journey!” Krzyscin says.

NEURAL NET

While it’s home to many never-before-seen systems, one of

LEAPS AND BOUNDS *CD Projekt Red’s story so far...*



THE WITCHER 2007
A slightly faltering first step, but with no lack of ambition.



THE WITCHER 2 2011
The first in the series to use the REDengine.



THE WITCHER 3 2015
More than 20 million copies sold and counting.



CYBERPUNK 2077 2020
Perhaps the most hotly anticipated game in history.

➤ *Cyberpunk 2077's* most impressive has to be JALI. JALI is software capable of complete automation of lip-syncing and facial animation that offers developers complete control to fine-tune the end result.

First introduced in a research paper presented at SIGGRAPH in 2016, JALI's first real-world application will be in CD Projekt Red's highly-anticipated title – quite the debut, no doubt. For Sebastian Kalembe, head of animation and associate game director at CD Projekt Red, however, the relationship is entirely symbiotic. The new technology has offered a huge boon to the animators, and one that they argue they couldn't be without.

"Doing facial motion capture for every NPC in the game is impossible", Kalembe explains. "You have to remember that we're talking about recording massive amounts of lines with numerous actors across different localisations, cooperating with studios all over the world for sessions, and doing VO pickups all the way until the very last moments sometimes. Using JALI we're able to successfully overcome many difficulties, for example logistical ones, that this undertaking would otherwise pose with regular facial motion capture."

By plotting a coordinate position on a user interface – a joystick plotted on a graph in which each axis represents either lip or jaw movement – animators are able to control a character's emotiveness at any given moment, and all without extensive and time-consuming mocap. "Anything from a whisper to a shout," Mateusz Poplawski, lead character technical director, CD Projekt Red, enthuses.

But facial animation is not only a question of accurate mouth

"It was also a huge surprise for us! We can gain so much with those additional, seemingly minor animations," Poplawski tells me. "As humans, we think before we say anything – at least most of us do! That process is what we see with these small muscle and neck

"WE CAN GAIN SO MUCH WITH THOSE ADDITIONAL, SEEMINGLY MINOR ANIMATIONS"

movements. No, human expression goes far deeper than that. In order to fuel realism, and a healthy dose of player empathy, JALI also deals in eyes, brows, and neck movements – all working in tandem with jaw and lip animation to recreate the intricacies of unspoken human understanding. Seeing JALI in action, I'm surprised by how much can be conveyed through only brow or neck movements alone.

movements. I would say that, for some lines, lip-sync is secondary to these minor movements."

From in-game cutscenes to bumping into an NPC in the street, JALI is used throughout *Cyberpunk 2077*. And the end goal for JALI, Kalembe explains, is a facial animation system that not only meets the standard for an open-world game on a massive scale, but one that allows us to "sense emotional stimuli even though we do not 'see' it."

Kalembe echoes a sentiment from one of the co-founders of JALI Research, and co-author of the original SIGGRAPH research paper, Pif Edwards, "Bad lip-sync gets noticed and the great lip-sync gets ignored." Essentially, if CD Projekt Red gets JALI just right, you might live in complete ignorant bliss of all that it is doing. And that is the very key itself to the immersion the studio is aiming for.

RAW EMOTION *The secrets of JALI*



1 In-game facial animations are controlled using the movements of a 'joystick'.



2 The further the point is plotted to the corner, the more emotive the character model.



3 It controls everything from brow movements to subconscious eye movements.



4 JALI is trained using multiple language models to accurately depict native speakers of ten languages.

日本語

MOTHER TONGUE

"Animation is the illusion of life," Kalembe explains. "There is a book – an animation bible, I would say – with such a title by Frank Thomas and Ollie Johnston, two of the key animators at Disney during the golden age of animation. And it rings true. I believe that facial expressions are absolutely necessary in order to fully captivate a player's attention and to make them feel what a particular character is feeling in that moment."

MAIN: As if the police weren't scary enough in real life...

That hidden language of emotion, underlying all captivating facial animation, will not be hindered by language barriers or time-constrained localisation in *Cyberpunk 2077*, either. Perhaps the most important tool in the box for the game's animators is JALI's ability to offer linguistically and regionally accurate facial animation for ten languages: Japanese, Russian, French, Mandarin, German, Polish, Brazilian Portuguese, Italian, Spanish, and English.

"The overall quality of facial performance is one thing, but another thing is nailing down the correct, colloquial, or language-specific way of speaking that every native is

expecting from the character they talk to. I think having characters that resonate and cross those international boundaries in this pretty personal way can be very powerful."

The team at CD Projekt Red is sure this is only the beginning for JALI, and it hopes the implementation within *Cyberpunk 2077* will set the bar in open-world games. Further language support is "just a matter of time", and the studio is already investigating new ways to improve upon the animation grade that JALI is able to deliver at launch.

"When I think about this relationship between CD Projekt Red

and JALI in general," Kalembe continues, "it reminds me of the quote from John Lasseter who once said that 'the art challenges the technology, and the technology inspires the art'. In my opinion, what we've managed to achieve with *Cyberpunk 2077* proves that."

It's a fitting quote for a studio that seems to strive to push the bar further and further up with every new release. *Cyberpunk 2077* is promising to be magnitudes larger, more complex, and smarter in its approach than anything CD Projekt has done before, and we've not long to wait to see its vision come to fruition. When that day comes we can look back at all this technology and see how far it got us. CD Projekt Red is certainly talking a big game – in more ways than one. ■



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SHLOCK HORROR

Looking back on the pioneer of
fear that was **HORROR SOFT**.

By Robert Zak

W

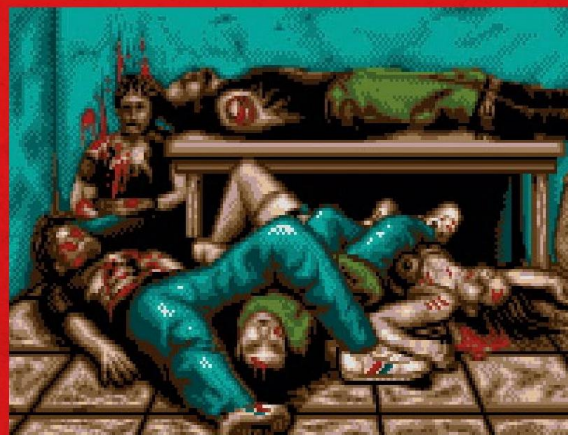
hat's the oldest horror game that can still make you jump today, or send that acidic tingle of unease up your spine? Dogs bursting through the windows in the original *Resident Evil* spring to mind, while the PC faithful may point to another glass-breaking moment – the first monster you encounter in the original *Alone in the Dark*. The last notable horror game before that, *Sweet Home* on the NES, probably finds itself just on the wrong side of the 1990s to maintain much impact today.

But in that overlooked period between 1989 and 1992, a British studio in the quiet town of Sutton Coldfield made some serious horror headway. Adventure Soft, founded by father-son team Mike and Simon Woodroffe, rebranded itself as Horror Soft, and over the course of three years released four first-person horror games that culminated in the beautifully gruesome *Waxworks*.

These games straddled a technological leap in PC gaming, introducing new ideas to the then-stagnant genre that left a sanguine blood trail for other developers to follow.

DEVIL IN THE DETAILS

The shockingly detailed death scenes remain as brutal to behold today as they did 30 years ago, while its grimy labyrinthine levels foreshadow the 'helpless horror' subgenre popularised by *Amnesia: The Dark Descent*, as you're often forced to flee



THESE GAMES STRADDLED
A TECHNOLOGICAL LEAP
IN PC GAMING



from the Eldritch creatures, zombies and mobs that twitchily stalk you through porous walls of darkness.

Horror Soft's father-son development team was an unusual dynamic, but it didn't impact the development process – no filial door-slamming or paternal telling-offs. Over time, father Mike gravitated towards the business and finances of the studio, while Simon became the creative and designer.

Simon, who now works as a creative director at Rare, didn't treat game development as a serious career at the time. "Most of those games were designed in my spare time between studying for exams," he says. "It was a way to make a bit of cash for beer and petrol!"

Horror Soft wasn't a wealthy studio, but it was supported by the fact that its games were technically licensed movie spin-offs. Three of Horror Soft's four games were fronted by '80s shlock-horror icon

BACK FROM THE GRAVE *How to play Horror Soft's games today*

If you're going to just play one Horror Soft game, go for *Waxworks*, which is the most polished of the lot, followed by *Elvira 2* which similarly throws you into several themed worlds. The original *Elvira* is more of a fantasy dungeon crawler, while *Personal Nightmare* is much more dated.



GETTING STARTED

Both *Personal Nightmare* and *Waxworks* are available to buy on GOG.com, while the *Elvira* games can't be purchased anywhere. They can, however, be found on Archive.org as abandonware and can even be played directly through your browser.

All the games run through the DOS emulator DOSBox, but the official build of DOSBox is now outdated, and you're better off running the original BAT files with a more recent source version of DOSBox like SVN Daum to get extra features like texture filtering and save-states.

TIPS

1 Save often (and don't be afraid to die – the death scenes are great!).

2 Click everything – secret key compartments hide behind indistinct metal rings on walls, vital herbs are often barely visible. This is truly 1990s adventure gaming.

3 *Elvira* and *Elvira 2* have weight limits, so drop items in central locations where you can pick them up later. *Waxworks* doesn't have weight limits.

4 Check your spell book for the ingredients required for spells.

5 Don't be afraid to run from a fight.

6 *Waxworks* has a hint system in the form of your crystal ball. Use it.



TOP LEFT: Camp '80s horror queen Elvira appears throughout the series to offer aid, puns, and bosom aplenty.

LEFT: Well, that's pretty damn horrifying.

Elvira, Mistress of the Dark, who pops up occasionally to brew spells, push the plot forward (and her chest out), all the while negging you and explaining what a pathetic worm of a person you are.

Horror Soft understood that line between horror and comedy, figuratively squeezing the jump-scares and gore into Elvira's omnipresent cleavage. The visual gags are supported by the writing – a showcase of dry British humour that glibly dismisses a dead security guard as "very poorly looking" or quips that an uncannily realistic rotting corpse, complete with animated maggots, "isn't going anywhere anytime soon".

GRAPHIC VIOLENCE

The Horror Soft era coincided with a seismic moment in PC gaming. Its first game in 1989, *Personal Nightmare*, was largely text-based,

confined to 16-colour EGA graphics and featured almost no sound, giving it that feverishly psychedelic look. The fact that the released Amiga version of the game enjoyed 32 colours and a comprehensive soundtrack puts into perspective just how dated DOS and PC were as a gaming platform at the time.

But by the time Horror Soft released *Elvira: Mistress of the Dark* the following year, VGA – which was capable of outputting 256 colours – was fast becoming the standard on PC. It made all the difference, bringing *Elvira's* graphics and colour depth up to the standard of the Amiga version – a standard that amazingly remains (ahem) palette-able to this day. Meanwhile, SoundBlaster audio launched in 1990 to offer an audio experience far superior to AdLib's 'robot choking on a frog' sound tech that preceded it.



» The timing couldn't have been better for Horror Soft, with each game in the series feeling and looking more advanced than its predecessor. This means that, when played today, *Personal Nightmare* suffers quite badly in comparison to the later games, while *Waxworks* stands out as a truly proto-modern horror game.

But before I bury *Personal Nightmare* for good, its clever ideas are worth pointing out. It's the only game in the series to use a persistent clock and day-night cycle, with the denizens of its cursed town going about their routines, shops closing and opening, and so on. It adds a layer of suspense knowing that at any moment you may get caught snooping around someone's house, or that at certain nocturnal hours a vampire starts roaming the town.

Personal Nightmare throws up some nasty imagery too, such as one sequence where you hack away at a wall to uncover your mother's corpse buried within, before cutting her fingers off with scissors to prise a book from her cold dead hands; the single-frame animation of her head dropping is the kind of jarring jump-scare that persists through the series. But with its lack of sound, rudimentary colours, and inscrutable text-based puzzles, it may just feel a bit too arcane for today's gamers.

NEW NIGHTMARE

There wasn't much for Horror Soft to draw on in the way of horror games, but Simon was awed by the seminal first-person RPGs of the time. "Mechanically *Dungeon Master* and *Eye of the Beholder* were big

inspirations," says Simon. "I guess there wasn't any precedent – but that's part of the excitement of making games!"

Mouse-click movement (and later, directional arrows in *Waxworks*) and the first-person perspective popularised by RPGs gelled well with horror, because it created an immediacy to your actions – a direct input without the intermediary of typing. So if you poked your head around the corner to see a zombie bearing down on you, you'd hammer the buttons as fast as you wanted to run away (or confront the creature, then decapitate it); your panic was mapped directly into the game.

Waxworks was also among the earliest first-person games to show your hand and weapon when attacking, heightening the sense that it was *you* in the world. All of this is standard horror protocol today, but at the time it was groundbreaking. Combined with the advances in PC

ABOVE: Your name's not down, you're not comin' in.

graphics and sound, it offered up unparalleled verisimilitude in horror.

But technology alone wouldn't be enough to successfully land those horror gut-punches, and Horror Soft also relied on some artistic wizardry. "Another thing we did differently was not hiring digital artists but bringing traditional artists to digital form," Simon recalls, "which brought in a whole bunch of new thinking that helped us be distinctive. We kept this going right through to *Call of Cthulhu* [the last game co-developed by the Woodroffes]". NPC faces, death scenes, and many of the backgrounds used actual photos, carefully hand-edited and compressed to evoke a shockingly grotesque realism.

The sound design is excellent too. *Personal Nightmare* had almost no sound, but this meant that during the few moments when demonic cackles or the crunchy cacophony of AdLib burst from your PC, it was enough to make you jump (my advice: if you

FACES OF DEATH

Horror Soft's death scenes are so grotesque that you can't help but laugh



STABBED

If the angry mob in Victorian London catches you, this is what happens. People power is overrated.



DESICCATED

Lose an encounter with your evil twin and he'll leave you as wrinkly as every *Dark Souls* player character.



RIPPED APART BY ZOMBIES

Dying at the hands of a zombie turns your chest into a great big strawberry trifle. Nom.



POPPED EYES

Seeing a falcon in flight is a sight to behold in *Elvira 2*, until it dives down and plucks your eyes out.



LACK OF SILVER BULLETS

This is what happens when you cross paths with a werewolf in a barn. We're lycan it.

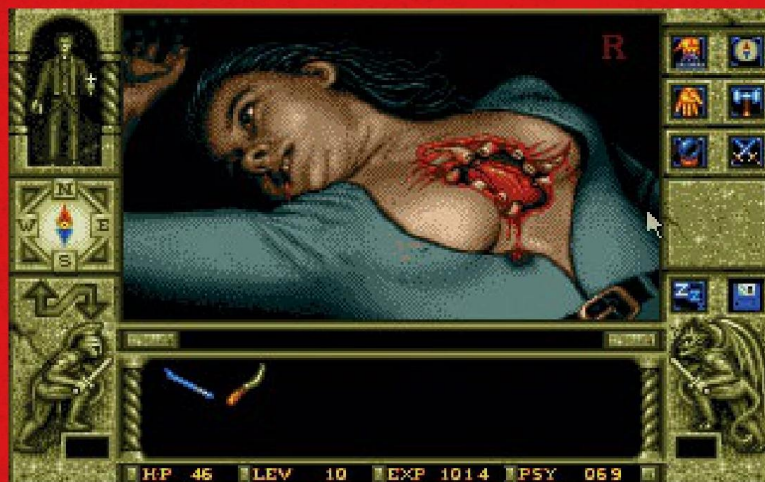
choose to play *Personal Nightmare*, put on a *Silent Hill* ambient soundtrack on in the background).

The *Elvira* games introduced screams and ghoulish cackles along with a proper soundtrack (still better on Amiga), before *Waxworks* upped the ante with music that intensified when you spotted enemies – a zombie drunkenly swaying around a graveyard, an angry mob in Victorian London believing you to be Jack the Ripper, or a delightfully homoerotic Egyptian stalking you in the bowels of a pyramid. The choppy animations of enemies and crude way in which jump-scares can appear from nowhere gives these games an eerily enduring ability to shock.

The series does come with its caveats. In *Personal Nightmare*, most of the puzzles feel unsolvable without a guide, and things only marginally improve in later titles. There are no in-game maps, and *Waxworks* particularly suffers from samey environments that are easy to get lost in. “Back then we didn’t do audience testing so we were mostly going on instinct,” admits Simon.

ABOVE RIGHT: And that’s just terrible, poor lass.

BELOW: Limited animations make for some jarring jump-scares, like this pustulant bastard.



Also brace yourself for death to strike quickly and without warning, whether it’s opening the wrong coffin in a mausoleum or settling down for a canoodle with an attractive lady only for her to morph into a succubus. These games aren’t afraid to give you a summary execution, but the gore-ious death sequences are a reward unto themselves, quickly

drowning the injustice of a truly bullshit death in a splattering of violence that can make even us desensitised gamers of today squirm.

DEAD AND BURIED

After *Waxworks*, the Woodroffes shifted focus to rather more family-friendly fare, finding their greatest success with the classic *Simon the Sorcerer* adventure games. “Honestly, my personal interests shifted away from horror,” says Simon. “I had started watching more comedy so it was a natural shift, and the horror series and *Simon* have more in common than might be apparent on the surface.”

BRACE YOURSELF FOR DEATH TO STRIKE QUICKLY AND WITHOUT WARNING

But a time when the immersive potential of videogames wasn’t explored, Horror Soft pulled us into a world of horror tropes like no game before. With subsequent ’90s horror developers opting for fixed camera angles and third-person perspectives, it would be well over a decade before the genre at large returned to the first-person perspective used so effectively by Horror Soft.

Maybe it’s because of this gap that the series gets overlooked in the horror chronology of gaming, but within it you’ll find the roots of a style of horror that would surface years later. If you want to feast on some timeless pixel-gore, then see the boxout on how to play and give yourself in to Elvira’s embrace. ■

A PERFECT GIFT FOR EVERYONE ON YOUR LIST*

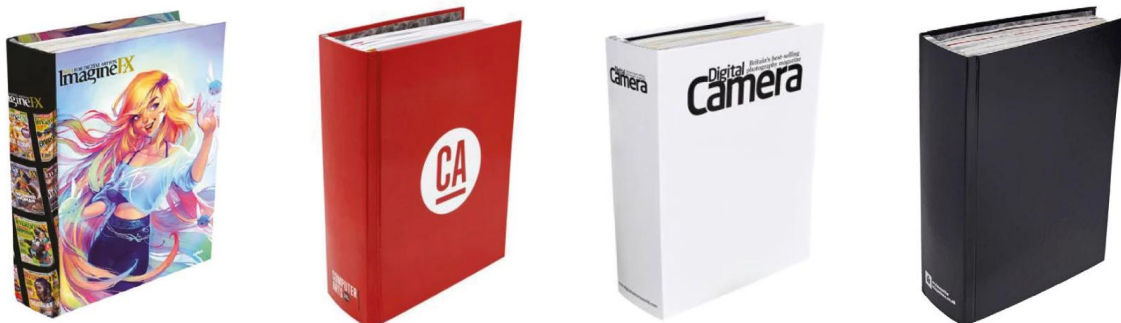
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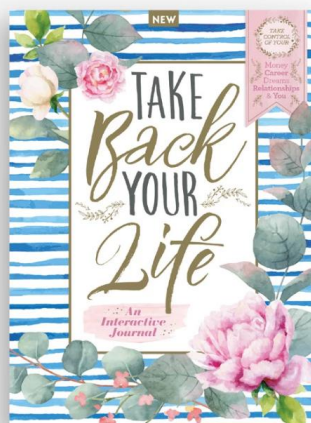
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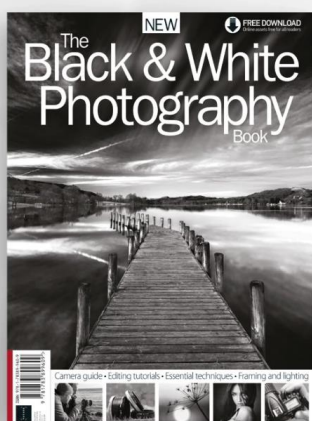
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REVIEW

HOW WE REVIEW

We review each game on its own merits, and try to match it to a reviewer who's a passionate expert in the field. The main aim of reviews is to help you make buying decisions. To this end, we're selective about what we review, and try to focus on the notable, interesting, exciting or surprising.

DOWNLOADABLE CONTENT

DLC might be new missions for a game, or it might be a single new item. If we think you want to know about it, we'll review it.

EARLY ACCESS

Any released alpha, beta, or otherwise unfinished game that you can currently pay for. For these games, we won't assign a score, but we will tell you whether they're worth your time.

THEY'RE BACK

Whenever there's a bargain or re-release of a significant game, our expert will revisit it and tell you whether it holds up today. With jokes.

OUR SCORING SYSTEM EXPLAINED

00%-09% Broken or offensively bad; absolutely no value.

Example *Leisure Suit Larry: Magna Cum Laude*

10%-19% We might be able to find one nice thing to say about it, but still not worth anyone's time or money.

Example *Gettysburg: Armored Warfare*

20%-29% Completely falls short of its goals. Very few redeeming qualities.

Examples *Family Guy: Back to the Multiverse*

30%-39% An entirely clumsy or derivative effort. There's little reason to play this game over a similar, better one.

Examples *Trials of the Blood Dragon*

40%-49% Flawed and disappointing.

Examples *Aliens: Colonial Marines*

50%-59% Mediocre. Other games probably do it better, or its unique qualities aren't executed well.

Examples *Primordia, Homefront: The Revolution*

60%-69% There's something to like here, but it can only be recommended with major caveats.

Examples *No Man's Sky, Ghost Recon: Wildlands*

70%-79% A good game that's worth playing. We like it.

Examples *Prey, NieR: Automata*

80%-89% A great game with exceptional moments or features, and touches of brilliance. We love it.

Examples *Overwatch, Night in the Woods*

90%-94% A compelling recommendation for most PC gamers. Important to PC gaming, and likely ahead of its time.

Examples *Bayonetta, Dishonored 2*

95%-96% Far and away one of the best games we've ever played. We recommend it to the entire world.

Examples *Half-Life 2, Kerbal Space Program*

97%-100% Advances the human species. Boosts the immune systems of nearby children and small animals.



The Editor's Choice award is granted in addition to the score, at the discretion of the PC Gamer staff. It represents exceptional quality or innovation.

Find out more
www.bit.ly/pcgreviews

What the hell

Most months I hardly get chance to play any of the games in this section before we go to print – I'm very much a catcher-upper in the world of PC gaming. But I've recently become obsessed with one of this issue's top scorers: *Hades*. It's consumed lunch breaks, weekends, and other blocks of time I should probably be spending with my loved ones. Is it because it's the best effort yet from one of the industry's most talented studios? Or is it because its story of desperate, perhaps futile struggle, told through the medium of endless repeating roguelike loops, resonates with my locked down, working-from-home existence? Well, I wouldn't be so vain as to directly compare the production of this magazine to a grand mythological adventure, so I'll just say: a little of column A, a little of column B.

Robin

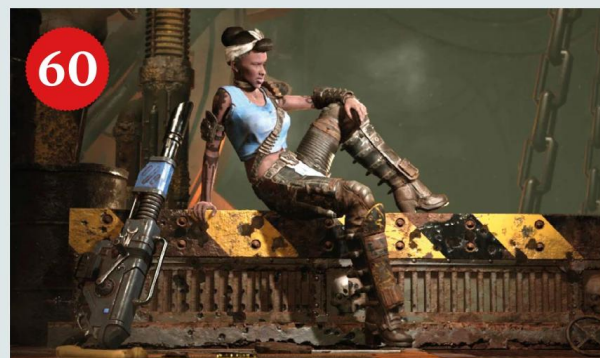
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PRINT EDITOR

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**LET US KNOW
WHAT YOU THINK**

Email us via letters@pcgamer.com with your reactions, or simply tweet us your thoughts @PCGamer



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This month's super heroic reviewers...



ROBERT ZAK
Specialist in
Infinity Gem
drop rates
Currently playing
Marvel's Avengers
This month
Saved the world, one
randomised piece of
loot at a time.



TYLER WILDE
Specialist in
Headless screaming
Currently playing
Serious Sam 4
This month
Dual-wielded a
minigun and a missile
launcher, and boy are
his arms tired.



**JODY
MACGREGOR**
Specialist in
Sisyphian tasks
Currently playing
Hades
This month
Tried to escape an
endlessly repeating
hell. *And in the game!!!*



TOM SENIOR
Specialist in
Threatening hairstyles
Currently playing
*Necromunda:
Underhive Wars*
This month
Explored the world of
grimdark megacity
gang fashion.



ANDY KELLY
Specialist in
Arthurian... stuff
Currently playing
Pendragon
This month
Got given a new
keyboard by a lady in
a lake. It's even got
RGB lighting.



TOM SYKES
Specialist in
The forbidden
itch.io pages
Currently playing
The Devil
This month
Discovered some
new ways to be
terrified for free.



MATT ELLIOTT
Specialist in
Ragnarok
Currently playing
Nuclear Throne
This month
Spent a lot of time
thinking about the
apocalypse... for
some reason.

GAME-AS-SERVICEABLE

The supes have never looked or sounded as good as they do in **MARVEL'S AVENGERS**, but their best efforts feel in vain. *By Robert Zak*

As I continue chip away at *Marvel's Avengers* after its campaign ends, and its hearty story recedes in the rearview mirror to be replaced by the stark plains of samey missions, it reminds me of the duality of so many superheroes. It straps on its tightest, glossiest spandex for the campaign and dazzles with its moves, but once that adventure ends and it returns to the daily grind of a multiplayer-oriented endgame, it blurs into the crowd. Inoffensive, yet indistinguishable but for IP it's adorned with.

The frustrating thing about *Marvel's Avengers* is that for the first few hours, you see hints of what it could have been – a visually spectacular and narratively wholesome adventure that does service to the IP – before its functional but unoriginal gameplay loop really takes over and you realise that *that's* the actual game you'll be spending most of your time with.

The campaign offers a simple story, following future Ms Marvel Kamala Khan as she seeks to reassemble the Avengers following a disaster that creates a wave of new superheroes labelled as 'Inhumans'. You're pitted against MODOK, who's intent on wiping out all Inhumans with the help of AIM's Scientist Supreme Monica Rappaccini and her huge army of robots.

SQUARE MEAL

A pretty regular Marvel setup then, albeit animated, voice-acted, and written right up there with the best games of this generation (it was made by the same lot who made *Tomb Raider*, after all). I found myself actively looking forward to the cutscenes and snippets of in-game banter, wooed by the harmony of acting and animation that trickles right down to a level of nuanced expressions and body language rarely seen in the medium.

The relationship between Bruce Banner and Kamala Khan, for instance, unfolds beautifully. Banner's unsure body language, and the mix of irritation and avuncular care he shows towards Khan – whose chirpy

teenage optimism is just what 2020 needs – is a masterclass of voicework and mocap. It also elegantly addresses the fact that, to a 30-plus curmudgeon like me, the fresh-faced

Khan can be kind of annoying, but her convincing character arc soon gets me completely onboard.

Given the amount of big names the campaign has to introduce, it's understandable that

not all the relationships get the same level of attention, but each character still comes with their own sass and big personality that punctuates your progress as you bring the Avengers' floating command centre back to life.

There's not much need for communication or a balanced squad

NEED TO KNOW

WHAT IS IT?

A co-op focused looter-brawler set in Marvel's Avengers universe

EXPECT TO PAY
£50

DEVELOPER
Crystal Dynamics

PUBLISHER
Square Enix

REVIEWED ON
Radeon 5700XT, Intel i7-4790K, 16GB RAM

MULTIPLAYER
Yes

LINK
avengers.square-enix-games.com/en-gb

The villain MODOK, with his pustulant, hypertrophic head that seems to swell up with every scene, is brilliantly brought to life, turning one of Marvel's goofiest-looking characters into a memorable, eerily soft-spoken villain.

From the scuffs on Cap's shield to the blood visibly pumping through Hulk's body, the presentation is as shiny as Iron Man's thighs. But a few hours into the campaign its armour drops away to reveal something less impressive but more, shall we say, game-as-serviceable.

Once you're aboard the Avengers' Chimera ship, it becomes a little too obvious that you're being roped into the publisher's long game. You walk around on deck as your Avenger of choice, picking up time-limited challenges from vendors, buying gear with real or in-game currency, and using a map to freely drop into missions set across several biomes around the world. Some you do solo, others you do alongside up to three other Avengers, who can be controlled by AI or online players. I'd play with others where possible, and it speaks to the simplicity of the missions and combat that there's not too much need for communication or a balanced squad. I *did* get to play online alongside Hulk wearing a Hawaiian shirt and fedora though.

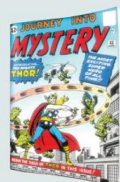
The combat is a curious mix of classic brawler moves like juggling, suspended aerial attacks, and light-heavy combos with the counter-and-dodge-based style of the *Arkham* games (there's even a move where you jump over a shielded enemy's head to break their shield). Little icons on the edges of the screen tell you how close a missile or laser is to blasting you away, while enemy melee attacks are telegraphed by coloured circles, which let you know whether to dodge or parry them. Get enough attacks together and your rage meter fills, letting you unlock spectacular special moves like Iron Man summoning his Hulkbuster mech, or Ms Marvel turning into a

COMIC CAPERS

You can find comic book covers scattered throughout the game. Here's just a few



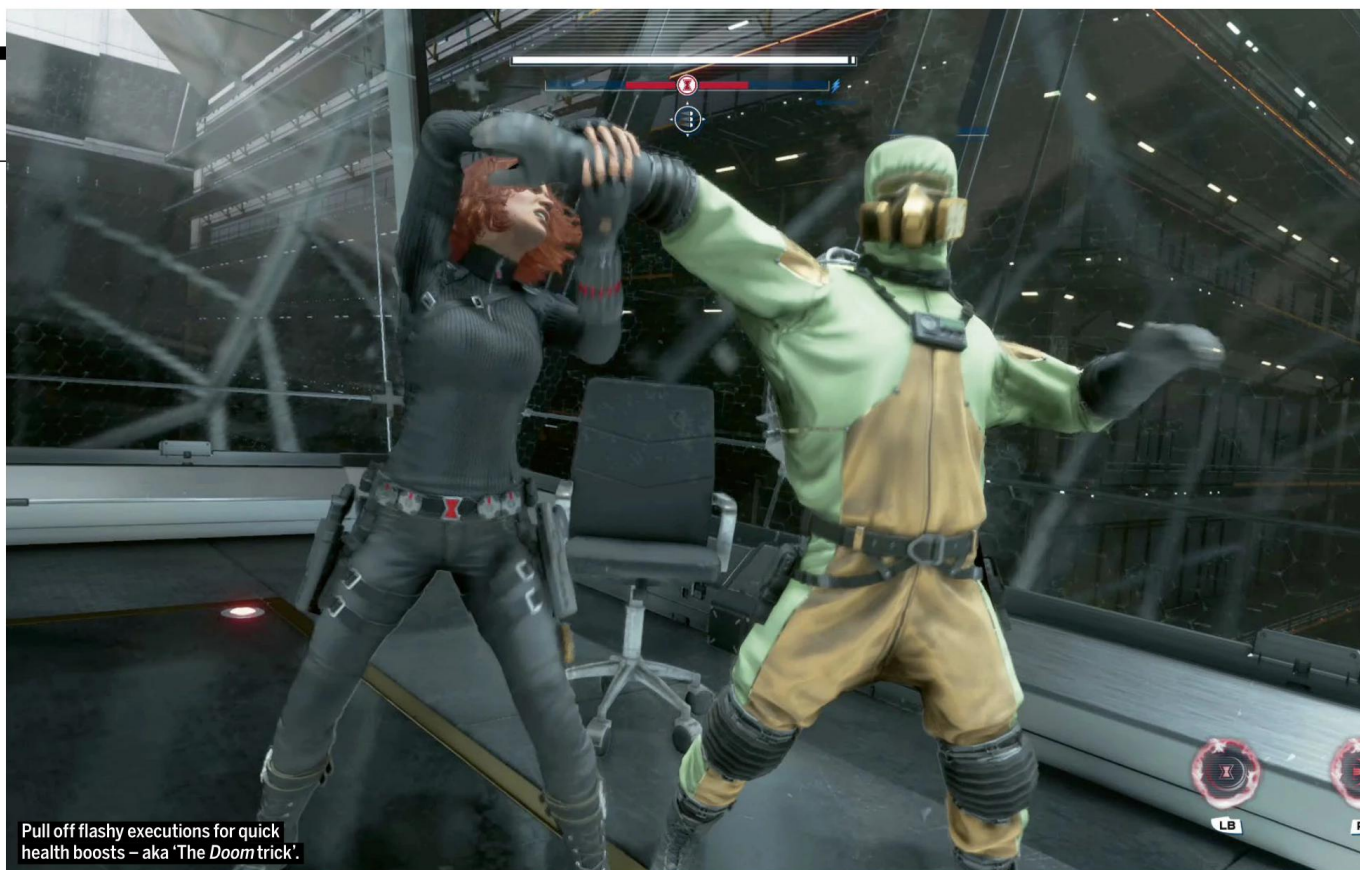
AVENGERS (1963) #1
The very first Avengers comic. Note how Hulk's looking like Frankenstein with food poisoning, and Iron Man seems rather encumbered in his original suit.



JOURNEY INTO MYSTERY (1962) #1
Thor made his way into Marvel comics for the first time with this issue, in a series that until then had been associated with horror and sci-fi.



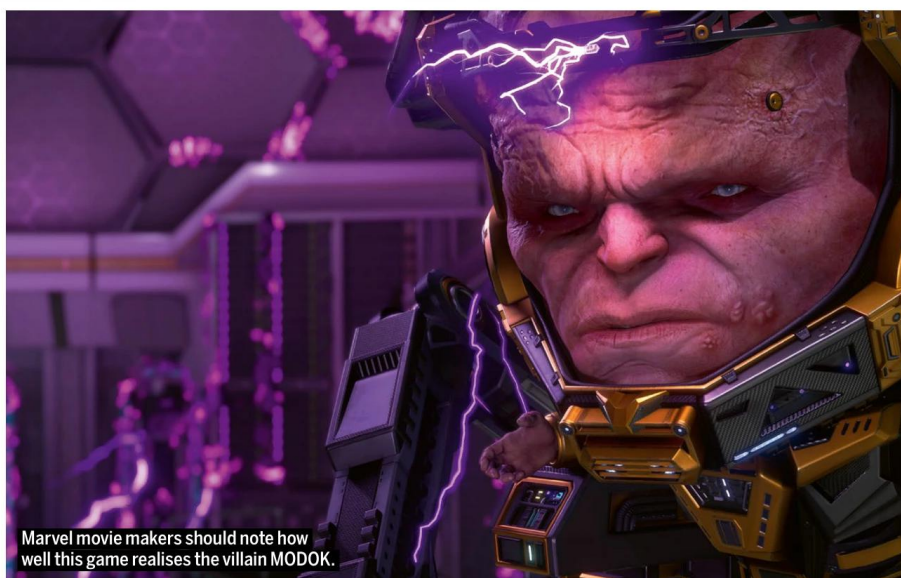
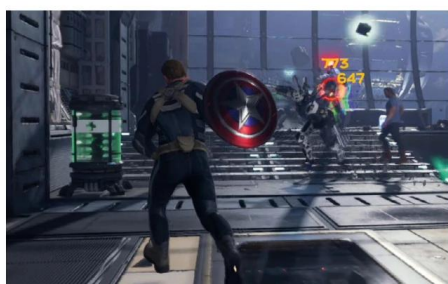
MS MARVEL (2015) #25
The game's hero Kamala Khan made her comic-book debut in 2014, becoming Marvel's first leading Muslim superhero and a widely acclaimed Marvel icon.



Pull off flashy executions for quick health boosts – aka 'The Doom trick'.



Once you're aboard the Chimera, the gear grind begins.



Marvel movie makers should note how well this game realises the villain MODOK.



Boss fights are fun, but the endgame needs more of them.



Ms Marvel with her elasto-limbs is one of the smoothest heroes to play as.



Marvel's Avengers

» long-limbed giantess like a wacky arm-waving inflatable tube girl.

The icons give you a lot to think about while filling your screen with a confetti of mechanised enemies and special moves executed by your fellow Avengers, and it doesn't always feel like you – or even the game itself – can keep up. A couple of dozen hours in, I'll still often dodge instead of parrying when the enemy attack circle is white (dodge for red, dammit!). That all-important telegraphing of enemy moves isn't entirely consistent, and the camera's a little too close for comfort – great for ogling Hulk's slabs of back muscle and every hero's perky butt, not so great for managing space in a scuffle.

Playing as the speedier members of the group, Ms Marvel and Black Widow, feels much better than Hulk, whose lumbering style doesn't sync well with the already slowish animations and floaty jumping physics.

High-flyers Iron Man and Thor, meanwhile, offer a buzz as you can freely swoop into battle, but finer aerial manoeuvring and attacks are fiddly and weaker than melee.

But in a game so much about fan service, there's something to be said for making each superhero feel unique, even if that is at the expense of balance. The characters move and attack just like you remember from the movies or imagine from the comics, right down to the disinterested way Hulk toe-pokes chests open. During these little moments, and amidst the on-screen muddle when you string together a bunch of counters and executions

before letting rip with a hero's special move, the superhero fantasy successfully shines.

OVERSTRETCHED

The bigger problems lie on the bigger scale, once you finish the campaign and the narrative gel holding the missions together gives way. Missions may be set all over the world, but levels themselves are sparse expanses of snow/forests/city where you hunt for crates hidden in metal bunkers guarded by faceless robots, before proceeding to complete a main objective – destroying a few structures, or holding onto some control points *Battlefield*-style.

These levels try to spruce things up with awkward platforming segments and hunts for SHIELD stashes (essentially a slightly better stash among endless stashes), but they're visually ugly and unvaried.

Also, for some reason the 'Power' level required for various missions is all over the place, greatly restricting the amount of missions you can take on. I was quite up for a boss-fight mission that SHIELD offered for their daily challenge (which improves your faction rank with SHIELD, which lets you buy locked-off gear yada-yada), only to find that I was dozens of levels below being able to do it. These are the kinds of things that can be smoothed out over the coming months, but as things stand a good chunk of the endgame remains level-gated.

Back aboard the Chimera, the metagame of daily challenges,

endless gear upgrades (with daily 'specialty' items), and missions becomes particularly noticeable post-campaign. Without the more bespoke campaign-specific missions and story to break them up, the monotony begins to set in, and while there is an obsessive feedback loop to repeating missions, upgrading your gear, and improving your character in perpetuity, you don't even get to see these gear upgrades. The only aesthetic changes are different costumes, which are a rarity to find, and otherwise locked behind higher levels and real-world currency. There's nothing too egregious about the microtransactions, which are purely cosmetic and also include emotes, nameplates and execution animations, but there's nothing particularly satisfying to work towards in the endgame either.

It's perhaps the fate of the Avengers – with its glut of famous faces under one roof – that a fleshed-out single-player campaign will never be enough to satisfy the publishing bean counters. Yes, the story is worthy of the MCU, but it's too short and ends up being a shiny wrapper for what's currently a rudimentary game-as-service.

Of course, all this comes with the caveat that it's just getting started, and there have been plenty of online-oriented games that didn't hit the ground running before going on to become behemoths in the genre. There's enough button-mashy mileage in the combat system, especially as new heroes get introduced as DLC, but it's the mission design and gameplay loop that let it down. They're just not strong or varied enough.

Not that justification beyond a 14-hour campaign and 'it's your favourite superheroes' is needed for a day one purchase, based on the game's early sales. But if *Marvel's Avengers* wants to keep those loyalists sweet and expand its player-base to establish itself as a force to be reckoned with, it needs a lot more flesh on its skeletal armature. A good place to start would be carrying some of that narrative prowess from the campaign over into the endgame. ■



There's nothing particularly satisfying to work towards in the endgame

AVENGERS SHOWDOWN

How does *Lego Marvel's Avengers* stack up against *Marvel's Avengers*?

**STORY**

Both do well here. Lego's take does a great job retelling the best bits of the movies, but *Marvel's Avengers* pushes the boat out to tell an all-new story, and lands it really well.

Winner: *Marvel's Avengers*

**CONTENT**

Lego's vibrant open-world levels and split-screen co-op currently trump *Marvel's Avengers*' disappointingly bland and repetitive missions, and online-only multiplayer.

Winner: *Lego*

**COMBAT**

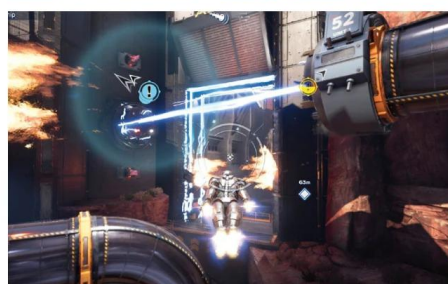
Like most of its games Lego's outing lacks some depth, while *Marvel's Avengers* gets messy by mixing up its brawler genres. Neither is terrible, neither is great.

Winner: *Draw*

PC GAMER VERDICT

Marvel's Avengers' well-told campaign and story do their best to mask a rather scrawny game beneath.

69



SPRAY 'N' PRAY

Dual-wield miniguns and rocket launchers in the dated, ridiculous **SERIOUS SAM 4**. By Tyler Wilde

While *Serious Sam 4* feels like an old game, it isn't a retro throwback. It's just full of junk: battle music that ends the moment the last enemy is killed, cutscenes that start the instant a boss dies, clothing, dirt, and rock textures that pop in and out, and level events that occasionally fail to trigger, or won't happen until you hunt down that one last enemy who got stuck running into a wall.

At least the junk is endearing (mostly), and *Serious Sam 4* is fun – like the other *Serious Sam* games it's still about murdering overwhelming hordes of aliens with enormous guns while moving backwards at the speed of a figure skater.

You're always on the verge of being overtaken, gripping the edge of control as you shoot at cyclops beasts, kamikaze guys, vampires, and insectoids, putting just enough space between you and them to give your bullets room to travel. That tension sustains almost all of *Serious Sam 4*'s ten-or-so hour campaign, which is playable solo or in online co-op.

Bullet-hosing hundreds of beasts is satisfying in the same way power washing a house is, but I also enjoyed occasional finesse shots with the overpowered Devastator, and showy manoeuvres that I did just for the hell of it. In one of my favourite scenes, I charged across the French countryside wielding dual double-barrelled shotguns at a bull that was charging back at me. I waited until I could see the glow of its demon eyes

before firing both guns into its forehead, and then reloaded them simultaneously (how?) while dodging out of the way of its tumbling corpse – just for style points, as it would've clipped through me. Rarely in

shooters is it a good idea to face enemies head on in the open, but *Serious Sam 4* lets you have a few Braveheart moments.

Satisfying in the same way power washing a house is

RUN & GUN

A small but notable change makes that

scene possible: in *Serious Sam 3* (which is *actually* ten years old), you have to stop sprinting before shooting, and there's a brief animation where Sam re-readies his weapon. In *Serious Sam 4*, you can just cancel the sprint animation by firing, and the shot is taken instantly. The change speeds things up for the better. It's a lot of fun to sprint behind enemies who have front-facing shields and snap out a couple of shotgun blasts to their backs.

Serious Sam 4 is different from *Serious Sam 3* in other good ways, too, but I'm disappointed that the changes aren't bolder. The big

NEED TO KNOW

WHAT IS IT?

A shooter campaign that pits you against enormous hordes of alien monsters

EXPECT TO PAY
£31

DEVELOPER
Croteam

PUBLISHER
Devolver Digital

REVIEWED ON
Windows 10, Intel Core i5-9600K, 16GB RAM, Nvidia RTX 2070 Super

MULTIPLAYER
Yes

LINK
croteam.com/serious-sam-4-planet-badass/

technical achievement here is that many more enemies can appear on screen at once, but once the spectacle wore off my reaction was, "Ah, great, another wave of those skeleton bastards." You can only focus on deleting so many beasts at once.

Meanwhile, the story about seeking out the Holy Grail (actually an alien artefact) with a Russian priest is cute, but isn't going to make a star out of Sam Stone. The attempts at pathos and romance are let down by the plastic action-figure character models, and most of the gags are generic. The running joke is that Sam and crew are workshoping witty one-liners to say after killing big aliens, but the idea that action heroes workshop their one-liners feels like more of a cliché than action heroes saying one-liners – action heroes don't actually do that anymore.

Another small disappointment: there's no survival mode, at least yet. *Serious Sam 4* is just the campaign, although you can play through the whole thing in four-player online co-op with customisable rules (turn on infinite ammo, among other things, if you fancy it). I gave it a try and it works fine, although I barely noticed my co-op buddy – it's not really a game about working together.

A few of the ridiculously large battles should get friends laughing together in co-op as they struggle to hose down lines of aliens with lasers. But where the new *Doom* games invoke the spirit of a classic with contemporary genius, this is just more *Serious Sam*: fun, janky, and thoroughly uncomplicated.

Some good news is that mod tools are promised, and there's a spot in the menu for Steam Workshop packages. That's great to see, even if I can't judge what's not there yet. ■

PC GAMER **VERDICT**

Serious Sam 4 is janky as hell, but mowing down thousands of aliens in Vatican City is worth doing at least once.

71

SHOOT WITH STYLE *Fashionable combos for any alien combat situation*



AUTOSHOTGUN + DEVASTATOR

Double up on magazines for all the shells.



DUAL PISTOLS

Max Payne's iconic look isn't just for subway stations. Try it in the field.



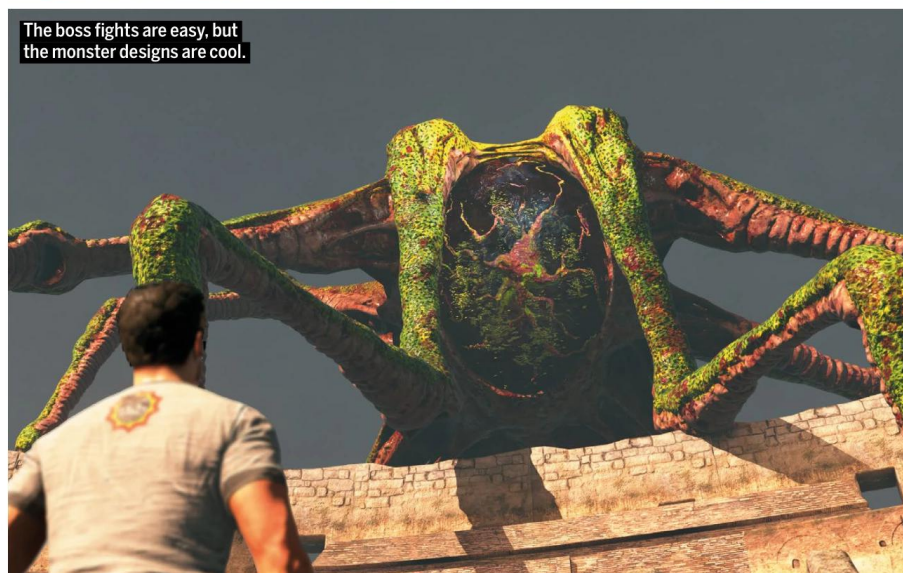
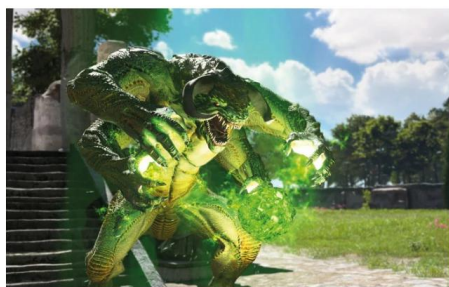
DUAL CHAIN GUNS

A powerful symmetry that says "I know what I like, and it's large guns."



KNIFE + SNIPER RIFLE

Short range? Long range? Not a problem.



HELLUNKY

HADES turns Greek mythology into a permadeath hack-and-slash. *By Jody Macgregor*

Roguelikes usually put story in the back seat – the back seat of one of those cars with a window separating it from the driver. Not so in *Hades*, where every character is fully voiced and has more to say with every run. You're Zagreus, son of the lord of the underworld, who believes ruling in hell is overrated. With the help of your distant Olympian family you're going to fight through every mythic monster between you and escape.

Hades paints its characters in broad archetypal strokes. My favourite is Dionysus, god of wine, hedonism, and everybody just being like really cool, but everyone from long-suffering fury Megaera to layabout Sisyphus is brought to life with a solid vocal portrayal and art like they stepped out of a Mike Mignola comic.

Where other games hand out story as a reward for success, *Hades* uses it to reward failure. With each

death Zagreus is sent back to court, and doing a circuit to see what new things everyone has to say lets you wind down after your latest death has left your hands shaking. When I die in *Dead Cells* I want to quit, but in *Hades* the sting's removed because I get to chat with an embodiment of night and see what's up with Orpheus. Then I buy another round of upgrades and try again.

At the start of each run you pick a legendary weapon, like the Aegis

shield, accept a boon, like the one from Dionysus that adds hangover damage (read 'poison') to your attacks, and enter the underworld.

Every weapon's unique. Hold down attack with the shield and you'll block, then bull-rush forward. Its special lets you bounce the shield off enemies then catch it like a Hellenic Captain America. The Adamant Rail is literally a gun, complete with grenade launcher. In addition,

you've got a ranged attack called a 'cast', and a 'call' that's earned by filling up your god gauge. But the real star in your arsenal is a dash that can take you through enemies and objects, and combines with attacks for a dash-strike. Dashing feels great, whether used to backstab a skeleton, or to warp through a column just as a minotaur charges so he slams into a lump of marble instead of me.

Mobility's essential, not just to avoid attacks but to set up wall slams

The steady improvements feel balanced to my own improving skill

NEED TO KNOW

WHAT IS IT?

A roguelike with a visual novel's worth of plot and characters

EXPECT TO PAY

£16

DEVELOPER

Supergiant Games

PUBLISHER

Supergiant Games

REVIEWED ON

Windows 10, Intel Core i7, 16GB RAM, Nvidia GTX 1060

MULTIPLAYER

No

LINK

supergiantgames.com/games/hades



for bonus damage, trigger traps then dash out of the blast zone, and knock down support columns to bring down chunks of masonry. Launching a combo then zooming around the battlefield puts me in such a flow-state I don't notice the soundtrack accentuating the action. If a game can distract me from Darren Korb rocking out then it's definitely doing everything right.

Obols from the eyes of the dead can be spent at Charon's shop for temporary buffs and heals, while shards of darkness buy permanent upgrades, like backstab damage or the ability to defy death and come back at half-health. Gems buy renovations for the hub and the underworld, adding rooms with healing pools or urns full of obols.

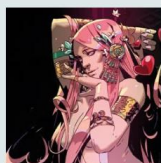
TITAN QUEST

I haven't even mentioned the diamonds, titan blood, and other currencies later in the game. It may sound like a bit much, but it's handed out at an even pace, and the steady improvements feel balanced to my own improving skill.

That's half of what keeps me coming back to *Hades*, and the other half is the story of Zagreus. He could easily have been another princeling smouldering with rage. Instead Zagreus is likeable, with a wry sense of humour and a courtly politeness, appreciating the servant who is also a floating gorgon head and taking note of who the employee of the day is while saying, "Hey, good for you".

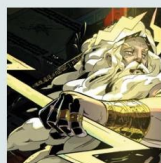
Sure, I want every run to end in victory, but I also want to buy that music stand for the throne room, unlock all the keepsakes, and see how this romantic subplot plays out. Like Orpheus I look back, only I'm happy to keep repeating this cycle. ■

AGENTS OF HUBRIS *Each god confers different boons*



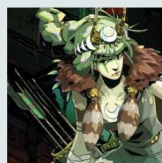
APHRODITE GODDESS OF LOVE

Offers various ways to reduce enemy damage, hates wearing clothes.



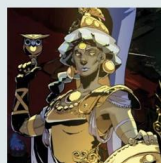
ZEUS KING OF THE OLYMPIANS

Gives bolts of lightning to jolt foes; has a stormy temperament.



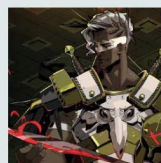
ARTEMIS GODDESS OF THE HUNT

Boosts your crits, seems to be pleased when you wield a bow.



ATHENA GODDESS OF WISDOM

Her boon that makes your dash deflect attacks is a lifesaver.



ARES GOD OF WAR

Gives gifts that improve your damage output and keeps count of all your kills.

PC GAMER VERDICT

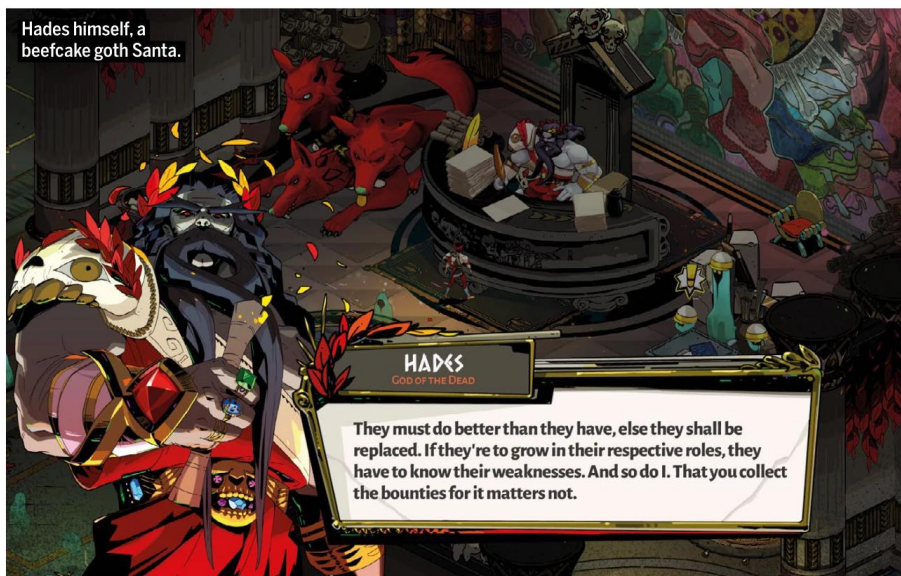
Action so intense it'll leave you jittery and hopped-up on adrenaline, and has characters to come back for.

90

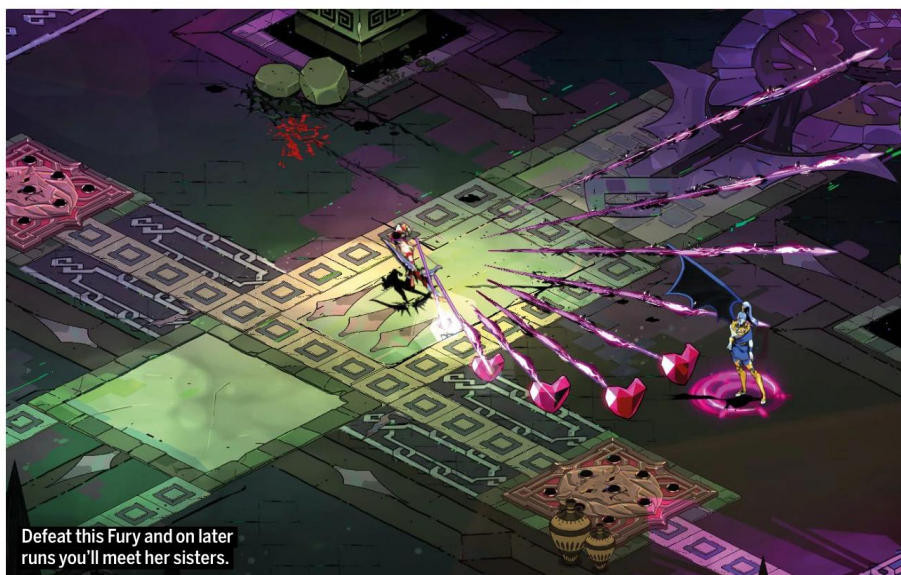
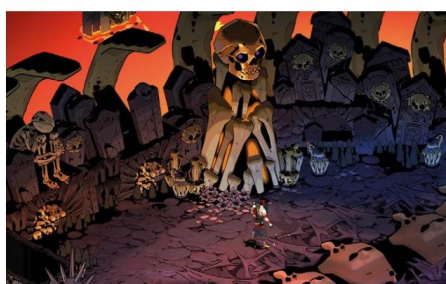
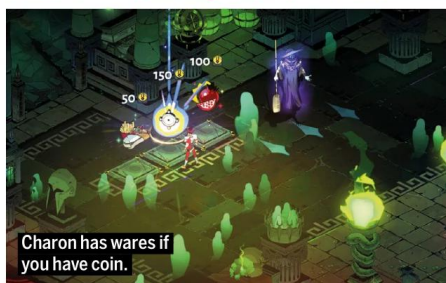
This gorgon turned me to stone. I got better.



Hades himself, a beefcake goth Santa.



Charon has wares if you have coin.



NECROTIC

Fight over resources and punk fashion accessories in
NECROMUNDA: UNDERHIVE WARS. By Tom Senior

Life is tough in the Underhive. To survive your gang needs to stick together to defend territory from cultists, gangsters, and the law in brutal short-range skirmishes set amid the metal walkways of an endless undercity. Then after all that, you still have to source enough hair gel to keep your two-foot tall punk mohawk from collapsing into a sorry mess.

Necromunda is a turn-based tactics game based on the venerable Warhammer tabletop skirmish game. In story mode you take charge of House Escher, who wield pipes, chainswords, flamers, and heavy machine-guns to seize territory and protect their matriarchal society. There are two other clans playable in skirmish and online: the scrappy House Orlock and the hench Goliath faction – they never skip leg day. Once you've sampled the story you can create your own warband and engage in a persistent campaign in which you battle for resources to upgrade your warband. And that's the real meat of *Necromunda: Underhive*.

It makes a great first impression. The convoluted multi-tier gantries of the Underhive look suitably rusty, and the characters in your warband look and sound exactly as I imagined they would from the wargame. There's good visual customisation too, though I'd like to see much

greater difference in the way the warbands actually play, both in terms of their abilities and the weapons they have access to.

PSYKER PUNK

Once the novelty of the setting wears off, cracks start to emerge in the tactics system, and the game won't do quite enough to satisfy hardcore fans of the tabletop game. This isn't a direct translation of tabletop rules, though there's a nice sense of freedom

You can sabotage walkways and ziplines to cut off routes

to the way you can roam in third person throughout your selected warrior's action-point radius each turn. When attacking, modifiers like elevation and proximity alter your chances of hitting, XCOM-style. You can mitigate damage by crouching behind cover. That's all classic turn-based stuff, but the levels themselves provide extra options. You can sabotage walkways and ziplines to cut off routes through the level; there's even a health dispenser, which can prove invaluable.

NEED TO KNOW

WHAT IS IT?

A turn-based tactics game based on Warhammer 40,000's gritty skirmish game

EXPECT TO PAY
£35

DEVELOPER
Rogue Factor

PUBLISHER
Focus Home Interactive

REVIEWED ON
GTX 970, Intel Core i5-4670k, 8GB RAM

MULTIPLAYER
Yes

LINK
bit.ly/3cvBwd1

All the right ideas are in place, but movement ranges are enormous for the size of the maps. That means you can't really encircle the enemy and set up flank attacks, because the next turn your target can scoot up a ladder and vanish wherever they like, which kind of ruins your plans. This isn't helped by AI that sends warriors zooming off in apparently random directions sometimes. Their shot choices are bizarre too. I've regularly seen enemies run past my exposed fighters, refusing to take point-blank range attacks that could have proved devastating to my team.

It's a sluggish game at times. When there's a serious number of fighters in the level, turns can take ages, to the extent that I found myself checking my phone as each enemy worked their way through each action. Once the pleasure of finally seeing *Necromunda* in a videogame faded, I found myself sighing at the start of missions. The strange AI behaviour and repetitive objectives never gave rise to a tense tactical situation that required much thought. There's an ability that lets you gamble to double a fighter's actions in a turn, which could have been an interesting risk/reward decision. It doesn't really matter if there's no risk involved.

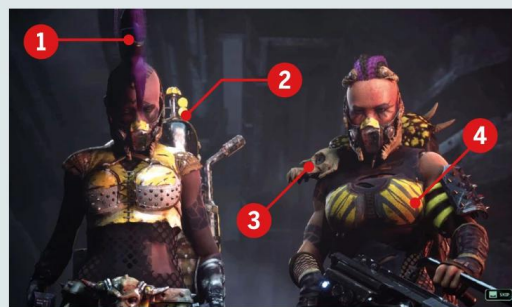
To top it all off, the game crashed on me a few times, and player-vs-player stability seems spotty too. Players have also been reporting a lot of bugs and some technical issues that I haven't encountered myself though. As a fan of the fiction it's almost worth putting up with, but not quite. However, if you are keen for a taste of *Necromunda* – even a mediocre one – this will be worth a look once the developer has updated the game and fried all the grots that are stuck in the works. ■

PC GAMER VERDICT

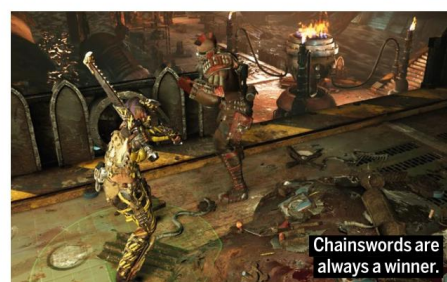
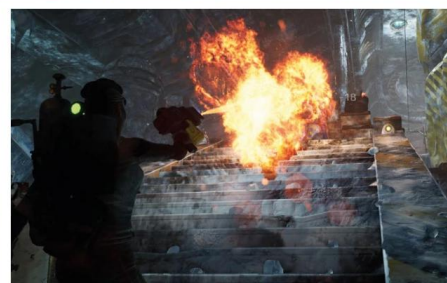
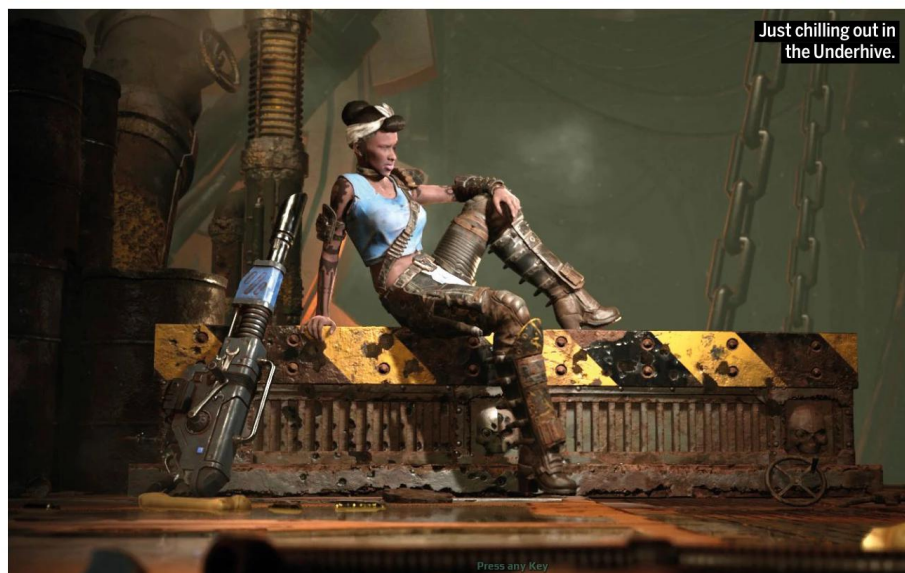
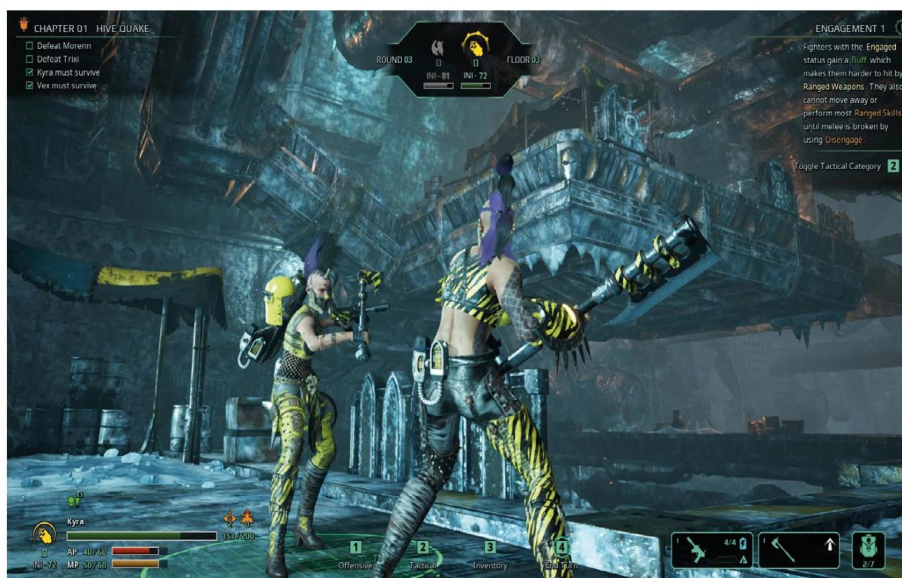
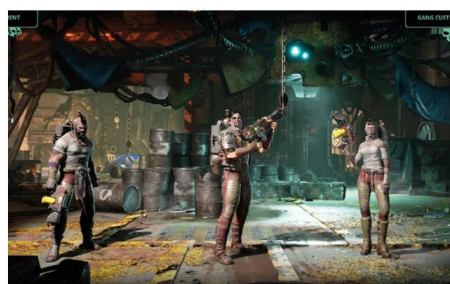
A fine-looking tactics game, and a good take on the *Necromunda* universe. Shame about the bugs though.

59

CULT FASHION Must-have looks in the Underhive



- 1 Carefully co-ordinated hair dye. Colour choice is up to you.
- 2 A flamethrower. Looks great; burns enemies.
- 3 Skulls. It's Warhammer – skulls are always mandatory.
- 4 Leopard-skin print. Camouflage is for pathetic cowards.



LIVING LEGEND

You never know what's going to happen next in **PENDRAGON**, an Arthurian narrative/strategy hybrid. *By Andy Kelly*

I've lost count of how many endings I've seen in *Pendragon*, the latest game from *80 Days* creator Inkle. Your goal is always the same: gather a party of warriors and reach the battlefield of Camlann to help King Arthur defeat the evil Mordred. But what happens on the road leading to this fateful encounter is different every time. The characters you meet, the places you explore, and the enemies you run into are heavily randomised, which makes for an excitingly dynamic and unpredictable storytelling experience – albeit one that occasionally punishes you with a sudden and unsatisfying finale.

Pendragon is essentially a narrative roguelike, based on Arthurian legend. Some knowledge of the mythology will help you navigate the story – I had very little, and felt like the game could have done a better job of leading me into its world. The story begins after the breaking of the fabled Round Table. Camelot has fallen and Arthur's allies have scattered, leaving him to face Mordred at Camlann alone. And that's where you come in. You pick one of several heroic playable characters – Guinevere and Lancelot are available to begin with, but more can be unlocked – and embark on a quest to save Arthur's royal bacon.

But here's the thing: you're going to fail, a lot. You'll repeatedly die on the road to Camlann, sometimes only a short while into your journey. Then when you finally do battle your way there, bloodied and bruised, one of Mordred's powerful knights may coldly strike you down. But defeat in *Pendragon* never feels like a game over; it's more like the last page of a particularly grim storybook. You close it, pick another from the shelf, blow the dust off the cover, and hope Arthur's pals are more successful in this one. Failure can be frustrating in *Pendragon*, but the path taken to that failure is almost always interesting.

YOUR MOVE

This marks something of a departure from Inkle's previous work in that it's a turn-based strategy game. The game is made up of a series of gridded boards – presented as ruined

castles, shadowy forests, and ancient standing stones – reaching the end of which moves you ever closer to your final destination. Sometimes you'll be

able to travel across a board unchallenged, encountering a recruitable ally, a talkative villager, or a moment of evocative world-building. But often there are enemies in your way, be they wolves or loyal soldiers

of Mordred. As you move you 'paint' the board, taking ownership of any squares you touch, which lets you and your party move faster on them.

What I like about *Pendragon* is how there's no separation between the strategy and the story. The plot unfolds on the board as you move and fight. A heroic sacrifice or a

**Defeat in
Pendragon
never feels
like a
game over**

NEED TO KNOW

WHAT IS IT?

A turn-based strategy game based on the legend of King Arthur

EXPECT TO PAY
£14

DEVELOPER
Inkle

PUBLISHER
In-house

REVIEWED ON
RTX 2080 Super, Intel
i7-9700K, 16GB RAM

MULTIPLAYER
No

LINK
[inklestudios.com/
pendragon](http://inklestudios.com/pendragon)

sudden death can have a profound impact on another character, unlocking one of the game's many special moves, such as charging across water tiles, jumping over blocked squares, or killing multiple enemies in a line. But I'd be lying if I said every story was compelling. My party being ambushed and killed by snakes in a marsh is not exactly the stuff of legends and campfire stories. *Pendragon* can be punishing, even on the lowest difficulty setting.

Occasionally you'll bump into people who become playable characters, whether it's the cruel witch Morgana le Fay or the boorish Sir Kay. Your choice of character colours the narrative, each having a distinctive personality and way of speaking. Some also have unique powers, such as Morgana's ability to briefly tame wild animals. The starting board for each hero is always the same, establishing their place in the world and motivation for journeying to Camlann to aid Arthur. But after that, the randomiser takes over and you're never quite sure what twists and turns the story will take on the long road ahead.

Compared to the lavishly descriptive *80 Days*, *Pendragon* is sparsely written, with short bursts of economical dialogue. Which, honestly, I found a little disappointing. But over time I came to accept that its greatest storytelling tool isn't its prose, but its systems. This is by far Inkle's most replayable game. Every story, even if it isn't a particularly good one, is different. As a strategy game it's pretty pared down, but the way it combines narrative and play is expertly done. The legend of King Arthur has been told and retold countless times, but never quite like this. ■

LIFE OR DEATH

The survival system explained



1 RATIONS

As each day passes, your health will go down by one. Eating rations will restore it, but they're often in short supply.

2 MORALE

This steadily falls over long battles – especially if you hold without taking an action. If it reaches zero, you flee.

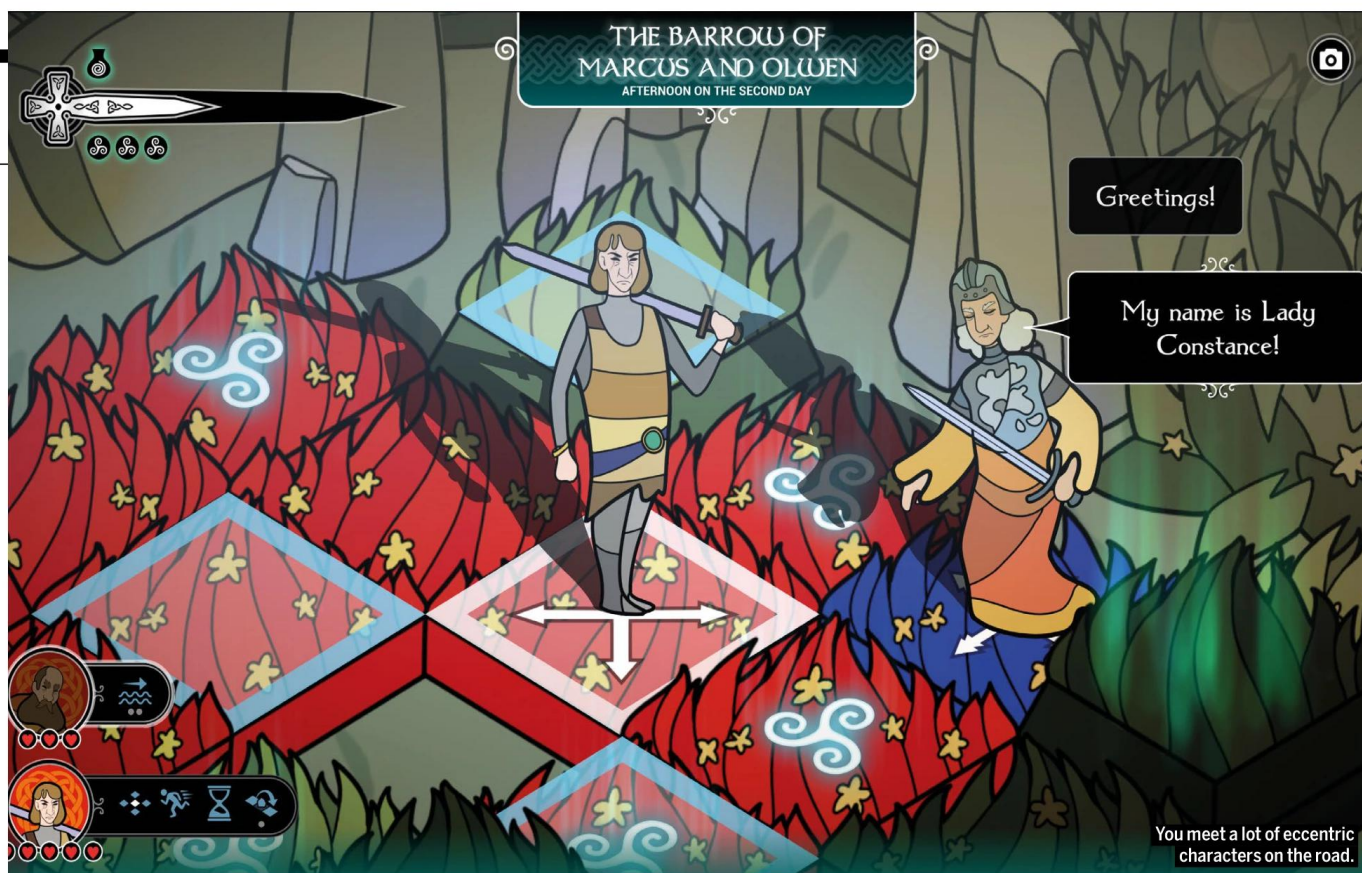
3 RESOLVE

You'll earn these as you play, and they can be spent on special abilities, or calling allies in to help in a battle.

PC GAMER VERDICT

Pendragon makes for an accessible strategy game that is tied to a powerful and dynamic story generator.

78



BULLET DANCER

It's murder on the dancefloor in
BPM: BULLETS PER MINUTE. By Luke Kemp

I don't know how many times I've found myself frozen by indecision, unable to decide whether I quite specifically want to play an FPS, a roguelike, or a rhythm game. OK, I *do* know how many times – none – but now, that's one less thing in life for me to worry about. Here, we have a game that forces these disparate genres into an unholy tryst, and the sweaty aftermath is as attractive as it is unnerving. Please, let me explain.

The main hook is that the actions of your weapons, both firing and reloading, are tied into the synth-tinged rock soundtrack. You need to act in time to the beat of the music. Try to shoot out of sync, and your gun jams. Attempt to reload outside of the beat, and nothing happens. It makes sense, then, that enemy attacks are also tethered to the music.

It's a system that takes some getting used to, but once I feel that I'm on top of it, it provides some uniquely satisfying moments. Against a background of rumbling power chords and squealing guitar solos, I shimmy funkily through the dungeon like a demon-hunting Louie Spence. *Dun-dun-dun-dun*, the guitar murmurs. *Pow-pow-pow-pow*, roars my gun, as I take out two worms.

This blissful feeling of synchronicity never lasts more than 15 minutes into a run. *Doom* is a clear

influence, something that becomes increasingly obvious the further I progress. Constant movement is essential, and the claustrophobic rooms will often be crammed full of enemies. The problem is that *Doom* has a rhythm all of its own. A constant, urgent rhythm that keeps you on edge until danger has passed. Forcing this into the middle of an entirely different rhythm dictated by music is disorienting.

The result is that the player is required to dance to two different internal beats simultaneously, something that I imagine many people will struggle with. I do, certainly in later stages where *Doom*'s rhythm becomes louder and more important. The game only truly shines when the heart of the rhythm mechanic is torn from the experience.

Turning on auto-rhythm unshackles my weapons from the

The player is required to dance to two different internal beats

NEED TO KNOW

WHAT IS IT?

A roguelike, a rhythm game, and an FPS to had an electronic baby

EXPECT TO PAY
£15

DEVELOPER
AWE Interactive

PUBLISHER
AWE Interactive

REVIEWED ON
GeForce GTX 1650, AMD Ryzen 5 3550H, 8 GB RAM

MULTIPLAYER
No

LINK
bulletsperminute.com

soundtrack. I can throw my playstyle wholeheartedly into the echoes of *Doom*. Not only am I doing better, I'm having more fun.

TAKE A DANCE

Game modifiers that *BPM* identifies as Challenges can be unlocked. One I gain access to is Full Auto, which truly brings the game to life for me. Difficulty defaults to Hard, but all weapons have automatic fire, and there's no need to worry about the rhythm mechanic.

The roguelike design is a much more powerful influence on the experience than the rhythm shooting. Oddly perhaps, there are no permanent advantages to earn. No shortcuts, no new starting weapons, no increased health, no increased base stats. There *are* stats in *BPM* by the way. Elements such as range, damage and movement speed can be increased by offering coins to the randomly placed statues scattered across each dungeon.

The distribution of weapons and abilities could do with a *little* more order. There are some fantastic things to find – a minigun, infinite ammo, teleportation – but the best stuff is distributed on an all or nothing basis.

The dungeons themselves have variations that crop up now and then. I don't mind being surprised with a low gravity dungeon, but suddenly having enemies that take and deal extra damage thrust upon me feels unfair. That's something I should choose to challenge myself with, not stumble into partway through a run.

For all its flaws, there's much to love in *BPM*, even though most of it is detached from the central rhythm mechanic. There's a lot of rock-infused fun to be had – but you'll have to dig for it. ■

PC GAMER VERDICT

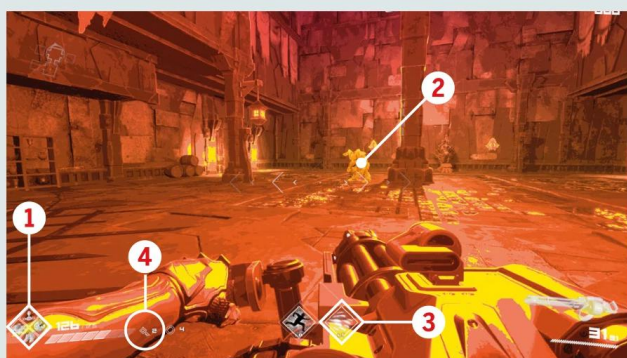
BPM is a great concept that's somewhat fumbled, only redeeming itself when it breaks its own rules.

68

A NIGHT AT THE ROCK OPERA *Making sense of your screen*

1 I've found and equipped the maximum number of bonus-giving accessories.

2 One of many enemies. These little gits are particularly difficult to kill.



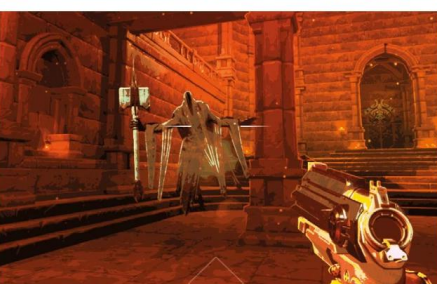
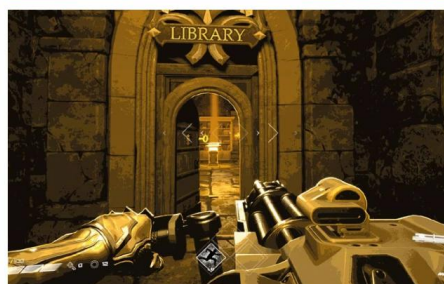
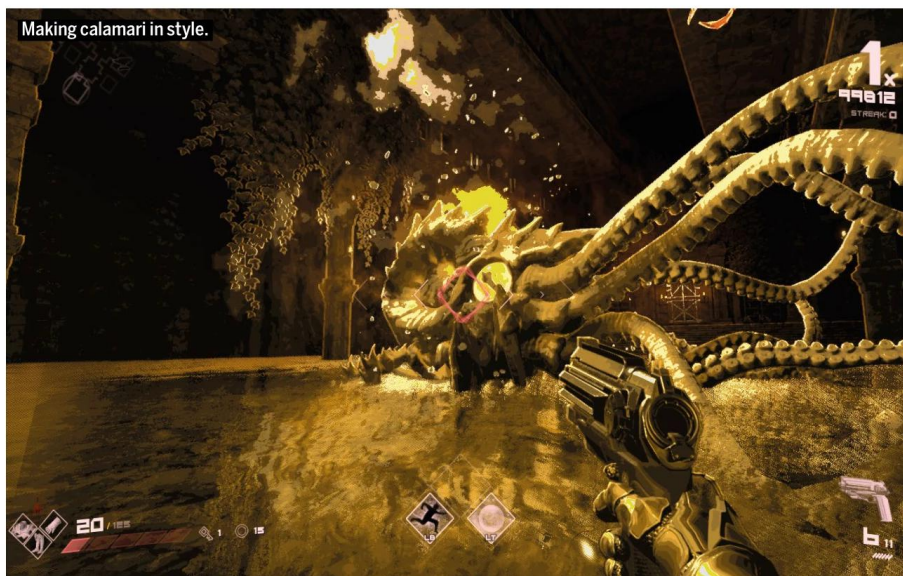
3 I've picked up an extra attack, sending bullets flying from my palm.

4 Keys are needed for the tastiest loot, found in locked chests and in the Library.

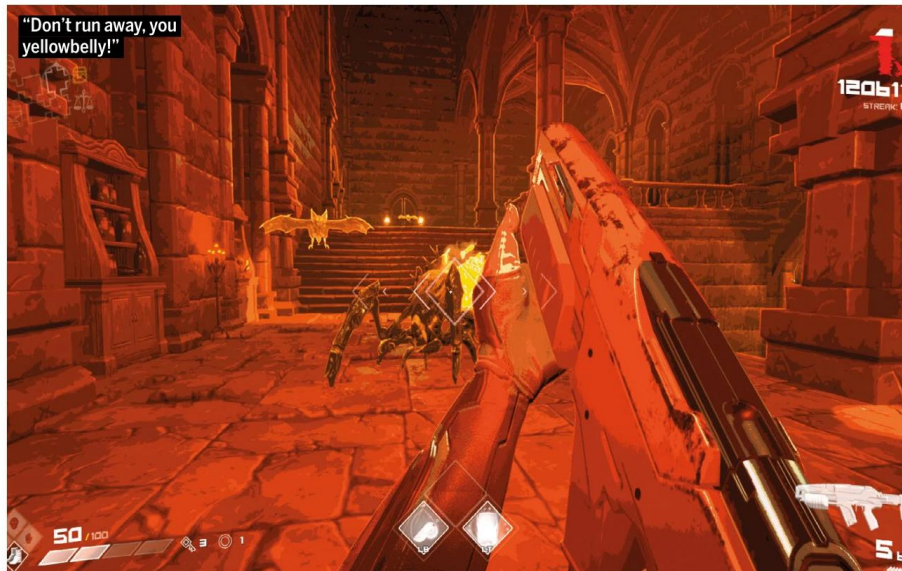
So angry, I'm seeing red.



Making calamari in style.



"Don't run away, you yellowbelly!"



INTO THE MULTIVERSE

Tactical RPG **STAR RENEGADES** hops between dimensions and genres alike. *By Alex Spencer*

You know that way of describing a game, or a film, or a sandwich, or whatever, where you condense it down to the simple formula of 'x meets y'? There's a temptation to do that with *Star Renegades*... but I suspect if I tried, my nose would start bleeding. A lot of games are magpies, lifting shiny ideas to decorate their own nests – but this is more like two people's Steam libraries got into a tragic accident involving a pair of matter transporters.

So, in the interests of keeping my philtrum unbloodied, I'll pick a single comparison point: roguelikes. Specifically, the post-*FTL* model, where you make your way along a branching path of nodes, each representing a combat encounter – in this case, between a battalion of extradimensional invaders and your motley Guardians of the Galaxy-style crew.

Lose the entire squad, and you'll be swatted right back to your starting point. But the game is keen to show you this ain't so bad, really – there are new abilities and characters to be unlocked between runs – and so it sets you up to fail early on. And when you do... ---bzzzt---

Oh, hi there! It's the Alex of Earth-2880 here. As I was saying, I'll pick a single comparison point: *Into the Breach*, and specifically the concept that each game-over closes off one timeline, and your next run takes place in a parallel universe. I'm

afraid the Alex you previously knew is wiped out forever, and now you've got me instead. Not that you'd be able to tell, because – like *Star Renegades*' heroes – I look and sound exactly the same in every universe. The only real

difference between alt-universe selves is the gear you find and equip them with along the way. In my case, I've got a fancy keyboard for +10 typing, let's hope it's enough to ---bzzzt---

Hi, Alex-0079 here,

with a single comparison: JRPGs. Not because *Star Renegades* plays like one, but because it borrows all the paraphernalia. You've got the gradual gathering of a party, trading banter as their bonds develop, even an old-school overworld for your conga line of squished hero sprites to toddle across. Combat looks like it could be lifted out of a 16-bit *Final Fantasy*, at first glance: the heroes and villains politely agreeing to line up on opposite sides of the screen and take it in turns to unleash attacks on one

Combat looks like it could be lifted out of a 16-bit *Final Fantasy*

NEED TO KNOW

WHAT IS IT?

Oh no here comes the nosebleed again. A tactical RPG roguelike that's a bit like if... ---bzzzt---

EXPECT TO PAY
£19.50

DEVELOPER
Massive Damage

PUBLISHER
Raw Fury

REVIEWED ON
Radeon RX 580, AMD Ryzen 5 2600 3.9GHz, 16 GB RAM

MULTIPLAYER
No

LINK
starrenegades.com

another. But try playing it like an RPG and ---bzzzt---

TAKING INITIATIVE

A magpie? No – *Star Renegades* is a cuckoo, using the trappings of familiar games to bamboozle you while its finest idea hatches. Namely, that every turn plays out along a 60-second timeline. Get an attack in before a foe and you'll land a crit on them, adding extra damage or special effects or, most important of all, pushing your target back a few seconds. Cue up enough pushback and you might be able to nudge them off the track entirely, causing them to miss their go. Of course, enemies can do the same right back – so it's all about balancing big hits, which tend to be slower, with speedy pre-emptive strikes. Phew ---bzzzt---

Hi, Alex from a dimension where he's played *Fire Emblem: Three Houses* here, to note *Star Renegades*' version of the support level-up cutscenes where two characters share a bonding moment ---bzzzt--- Alex-0451, here to tell you how *Star Renegades* borrows from immersive sims. Nah, just kidding. ---bzzzt--- There is, however, an honest-to-god Nemesis system, like in *Shadow of Mordor*, though nowhere near as brilliantly realised ---bzzzt---

You can see why I was worried about nasal haemorrhages, right? And it's just not talking about the game; playing it, you're constantly bumping against jagged edges where one of those 'x's meets a 'y'. If just one aspect of *Star Renegades* appeals to you, there's almost certainly another game that does it better. But, if you can stomach the occasional dimensional lurch, there's plenty here to like – not least the one idea that is, more or less, all the game's own. ■

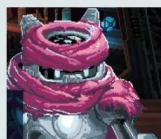
MEET THE GANG *Or at least, one timeline's version*



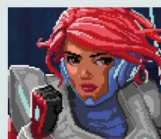
WYNN SYPHEX
Born in a universe where Scrabble allows proper nouns, Wynn cleaned up in the tournament scene.



NODO KALTHORIS
You know how Starlord is a photocopy of Han Solo? Nodo is what you get when you photocopy Starlord.



BENTLEY
One of two book-peddlers – you kind of suspect someone at Massive Damage hates Amazon.



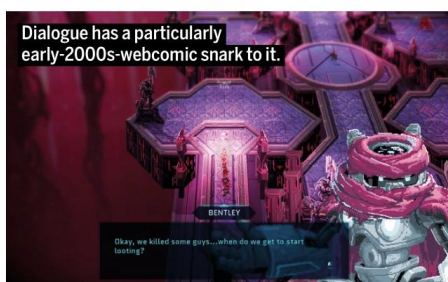
MARYADI PENRAVE
I never really got Maryadi's deal, but her shielding abilities make her indispensable.

PC GAMER VERDICT

Star Renegades is a multiversal master of none, with a messy but intriguing combat system at its core.

72

Faceoffs with big clumps of enemies don't show off combat at its best... but they certainly look cool.



BIRDMAN FLYING

Just like eventually landing that famous 900, **TONY HAWK'S PRO SKATER 1 + 2** shines after so many failures. *By Justin Towell*

After the disastrous Tony Hawk's Pro Skater 5, trepidation is understandable. But this starts so teasingly, with the right font, the right music, and the right menu style. And then the final barrier between hoping and believing is literally smashed down as you careen through that first wall and into the iconic warehouse level. It looks great – and damn, it plays so well.

Crucially, the game feels like the series did in its heyday, though not exactly like the two games in question. *THPS1* has been improved so much here in terms of fluidity, visuals and its trick system, it's more like an expansion pack for *THPS3*. Best of all, actual modernity is shunned entirely as you snap onto grind rails regardless of your approach angle and perform tricks with digital button combos instead of analogue stick waggling. The movement is rudimentary but it still provides some of the finest risk versus reward gameplay ever seen as you chain trick combos and grapple with balance meters at risk of losing everything with one mistake.

The main change is the introduction of *THPS2*'s manual and *THPS3*'s revert flatland tricks into the

package. These make for a much more enjoyable and flowing game, with far higher scoring potential. Naturally the goals have been elevated to fit, but this control uniformity does remove the little variety between the two games, so they don't really feel that different any more. Now they both feel great.

It's still great to hear Rage Against The Machine's Guerrilla Radio

While there are plenty of levels to explore and enjoy in each, there really aren't that many hours of career mode before veterans will start running out of things to do. A day, perhaps, maybe two. What there is remains expertly designed and the constant drip of unlocks and checkmarks still makes for a very satisfying campaign while it lasts.

After that, there's the skate park builder mode complete with several levels designed by Vicarious Visions

NEED TO KNOW

WHAT IS IT?
Remade, modern versions of the first two Tony Hawk games from 1999 and 2000

EXPECT TO PAY
£40

DEVELOPER
Vicarious Visions

PUBLISHER
Activision

REVIEWED ON
Windows 10 64-bit Home, Intel Core i7 10th Gen, 16GB RAM, NVIDIA GeForce RTX 2070

MULTIPLAYER
Yes

LINK
tonyhawkgame.com/uk/en

themselves, plus online leaderboards in a separate pillar of career mode. Then there's online play with a round robin of event types, as you watch other boarders around you, thankfully with collisions turned off.

SWOON HORSE

Local multiplayer is exemplary too, with a smooth-running split screen mode and a wealth of game types including the riotous H-O-R-S-E, where you're given a letter each time you lose to your buddy in a one-shot combo test. You can still change the word to whatever you like, so you either get called a horse, or... much worse. It's one of the best local multiplayer modes of all time, and 'trick greed' is still a great leveller.

Graphically, nothing here is phenomenal, but it's clearly a strong remaster of the old levels' rather basic geometry. Vehicles and skaters have far more detail, there's no obvious pop-in, and the lighting and texture work have many standout moments. My Nvidia RTX 2070 ran the game at 1080p on automatic max settings just fine for the most part, though did stutter a little on the longer, downhill-style levels, so some tweaking will likely be required if you want 60fps+ at all times. The soundtrack is censored (as usual) but it's still great to hear Rage Against The Machine's Guerrilla Radio as you cannon around the levels.

The fantastic score system, impeccable level design, improved visuals, exemplary online mode, and local multiplayer means there's very little to complain about here. Even veterans who blaze through it in a day will likely keep playing competitively. This is everything it needed to be, and feels surprisingly fresh. Lovely stuff. ■

GRINDING TO LEVEL 100

Perhaps to lengthen the games' admittedly rather short duration, many of the board designs and skater apparel items are locked behind player levels. But whether they're actually worth the effort to get there is questionable. Here are a selection of level 100 unlocks so you can make that decision for yourself...



BOARD

A unicorn farting a rainbow with two more unicorns in front of it. Erm... What do you want us to say? Farting unicorns are tight? Maybe it's supposed to be ironic or something.



TAPE

This is the absolute highest accolade when it comes to grip tape. It's colourful tape that grips! Admire its gentle gradient from red to yellow through orange. Amazing.



HELMET

Ladies and gentlemen, this is the fabled Triple 8 Sweatsaver helmet. It may look like a normal helmet but it's a level 100 unlock. Get off your knees and get grinding.



SHIRT

This is the 'I Love You, I'm Sorry Club Shirt'. It seems to say it in several languages. That's all fine and dandy (and it's very dandy) but isn't a hoodie a whole lot more stylish?



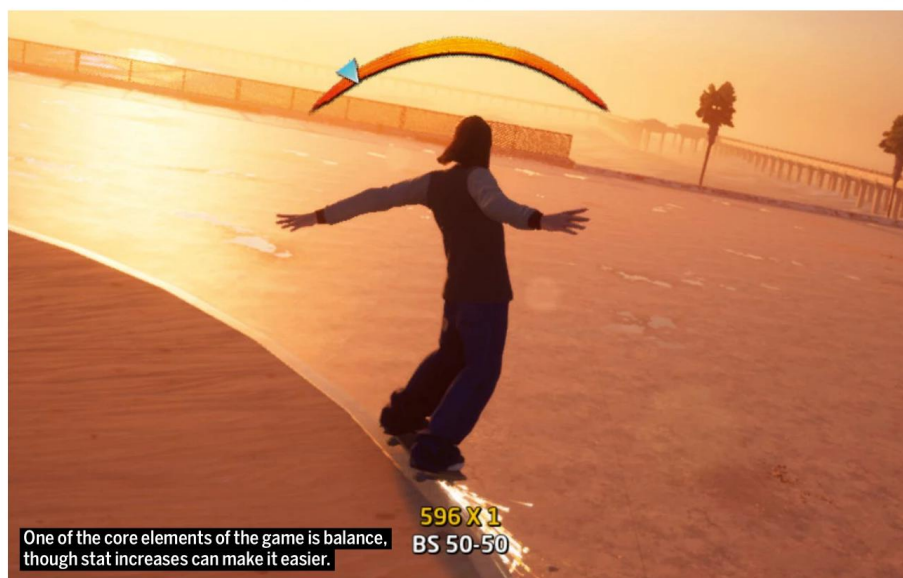
SHOES

These are the pinnacle of shoes in the Tony Hawk's world. Look, they depict the cosmos. There are billions of stars. And... like... we're so small, yeah? That's so deep, dude.

PC GAMER VERDICT

A perfect blend of authenticity mixed with modern-day quality. Joyous, slick, hi-score gaming that looks great.

86



HEAVY METAL

Real-time strategy action with massive mechs in **IRON HARVEST**. By Rick Lane

The *Iron Harvest* approach to fun is an avalanche of awe. No sooner have you got over the crack sniper lady with a pet bear, than it's throwing machine-gun toting spider bots and walking artillery platforms at you. It buries your cynicism in a scrapheap of powerful toys that'll have you grinning like a Cheshire cat. It's very hard to dislike, even with a story that's clumsily written and an underlying strategy engine that needs more oil in its gears.

Iron Harvest graduates from the Relic school of real-time strategy circa 2006. The basic formula sticks close to that established by Relic in *Company of Heroes*, but there is one crucial difference: the setting. *Iron Harvest* takes place in an alternate 1920s conceived by Polish artist Jakub Róðalski and also used for the critically acclaimed boardgame *Scythe*. Its story revolves around three factions that emerged from *Iron Harvest's* version of World War I, namely Saxony, Rusvia, and Polania. *Iron Harvest* focuses on the war's aftermath, where a truce between Saxony and Rusvia threatens to collapse under the pressure of a cabal of malicious instigators.

The main difference, however, is the existence of mechs – towering, diesel-powered combat walkers armed to the teeth with World War I era weaponry. These are *Iron Harvest's* main draw, so it's to the developer's credit that they are so rewarding to command.

The mechs seem to defy nature and physics with every moment of their existence, and this makes them thrilling to watch in motion. As for combat, good grief. The spectacle of any given *Iron Harvest* match is phenomenal. Matches start out small, with squads of rifleman trading shots from cover as they rush to capture early control points. Then it layers in more powerful units until the battlefield is prowled by hulking machines trading massive cannon shots that re-shape the terrain.

Iron Harvest loves playing with scale, and that goes for its campaign

as much as individual matches. Although they seamlessly conjoin into one story, there are actually three campaigns, each focussing on a different faction. The Polanian campaign, for example, charts the story of the country's resistance against Rusviet occupation, as young resistance fighter Anna Kos tries to rescue her father from the evil general Zubov. It's a surprisingly cinematic experience, with missions bookended

The spectacle of any given *Iron Harvest* match is phenomenal

NEED TO KNOW

WHAT IS IT?
Mech-tacular RTS with strong whiffs of *Company of Heroes*

EXPECT TO PAY
£47

DEVELOPER
KING Art

PUBLISHER
Deep Silver

REVIEWED ON
Nvidia GeForce 2080 Super, AMD Ryzen 5 3600, 32 GB RAM

MULTIPLAYER
Yes

LINK
kingart-games.com/games/7-iron-harvest

by meticulously directed cutscenes telling the story of the conflict.

ROLE CALL

As a strategy game, *Iron Harvest* has plenty of tactical nuance. As well as anti-infantry mechs, there are anti-mech infantry who pulverise armour with massive cannons. Flame units will absolutely annihilate infantry, but are much less effective against mechs. Mechs also take more damage when shot in the rear, encouraging you to try to flank them. Defensive structures like bunkers are extremely useful for stopping your opponent harassing your base with infantry and smaller mechs. Lastly, infantry retains a key role when the bigger mechs roll out too. Only infantry can capture control points, and can also harvest resources from destroyed mechs enabling you to field new units more quickly.

This all works well at a smaller scale, but the game's main feature, those massive, city-destroying mechs, are arguably the source of *Iron Harvest's* biggest issue. Larger mechs are so slow and so powerful that tactics go out the window when they get involved, with fights mainly coming down to whoever's got the biggest gun. Their sluggish speed also slows the late game down to a crawl. It can take a larger mech five to ten minutes to cross the map, so long that the situation has often changed when it arrives at its destination.

Although I don't expect a diesel-powered WWI era mech to move like a gazelle, *Iron Harvest* would benefit from making everything resolve a little quicker. That said, it's still a spectacular and rock-solid RTS, a worthy spiritual successor to one of the best RTS games ever made. ■

CLASS WARFARE

A rundown of *Iron Harvest's* unit setup



LIGHT INFANTRY

Your standard foot-soldier. Cheap to produce but easily killed. Can convert into specialist infantry.



SPECIALIST INFANTRY

Infantry dedicated to a specific task. Includes machine-gunners, grenadiers, and flamethrowers.



HEAVY INFANTRY

Exosuit-wearing soldiers designed for breaking infantry lines and taking on the lighter mechs.



LIGHT MECH

Small mechs designed to pulverise infantry. Keep your guys away from them or they're doomed.



HEAVY MECH

Mechs that serve various functions, acting as artillery, transport, or the perfect counter to other mechs.



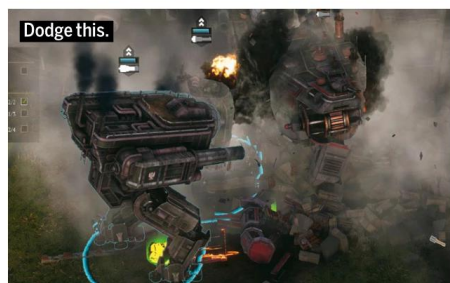
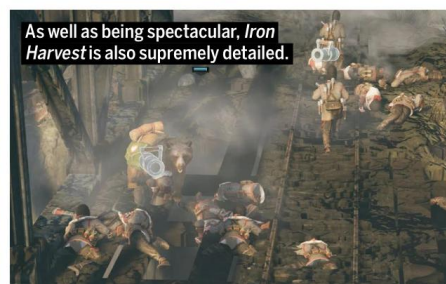
ULTRA-HEAVY MECH

The rulers of the battlefield. Powerful and equally durable. Every faction gets one of their own.

PC GAMER VERDICT

Iron Harvest's mech-based strategy can burn a little slow, but the payoff is undoubtedly worth it.

82



ON THE CASE

PARADISE KILLER delivers a satisfying demon detective experience with some vaporwave bangers. *By Funké Joseph*

I've never had such a sense of freedom in a detective game as I've had in *Paradise Killer*. I explored its eco-brutalist structures, speculated and accused its hyper-eccentric characters at my own pace and without ever being pushed in a particular direction. During the final hour, I had to play prosecutor at a trial and use all of the evidence I'd gathered to nail the culprit of a brutal killing spree. As I went over my notes, I felt like I'd really accomplished something.

The premise takes some adjusting to: *Paradise Killer* takes place on a tropical island whose inhabitants worship alien gods and sacrifice humans in annual attempts to summon them. They've tried 24 times on 24 different islands and it never works. They always accidentally summon demons. But this next island is going to be different. It's supposed to be the perfect one. It's a bizarre setting, but it's fun, and the soundtrack features some fantastic music: a groovy mesh of city pop, ambient jazz and disco.

You play as Lady Love Dies, an infamous 'investigation freak' who's been called down from exile after the island's highest officials were murdered on the night before they transitioned to the new, perfect island. It's up to you to figure out who did this, why they did this, and how. You'll need to interrogate key

figures, solve hieroglyph puzzles for information, and gather evidence with your computer sidekick as you explore the island to ultimately convict anyone and everyone responsible for the heinous act.

That breadth of possibility is both exciting and nerve-wracking

HEAVEN SENT

A novel detective game system holds *Paradise Killer's* weird world together. When you pick up evidence, it links itself to relevant parties in your files. If there aren't any clear

links, it goes into an unsorted pile that's unusable at the final trial unless you find out how it connects to someone. As I contemplated motives and learned new facts, I went back and re-interviewed subjects to see if they'd slip up and tell me something that they shouldn't. I had to be curious and hone my detective skills along the way, which led to the feeling that I'd earned a satisfying conclusion at the end.

NEED TO KNOW

WHAT IS IT?

A stylish freeform detective game that takes place on a beautiful island full of love and betrayal

EXPECT TO PAY

£16

DEVELOPER

Fellow Traveller

PUBLISHER

Kaizen Game Works

REVIEWED ON

AMD Ryzen 7 1800X
Eight-Core Processor.
3.85GHz. 16 GB RAM

MULTIPLAYER

No

LINK

paradisekiller.com



Exploration is a big part of the investigative process, and no matter where I decided to go I was either progressing the investigation or learning more about the world. I never stressed about evidence, because platforming around always led to discovery. There was one time I fell off of a building onto some rocks by the water, and I was briefly upset that I'd have to climb my way back onto the island. But as I was walking back up I found a rusty knife that seemed to be conveniently tossed away from the scene of the crime. I logged it in the investigation, and I saw that it connected multiple people to the case. A whole new conspiracy unravelled in front of me.

You can gossip and interrogate each character on a whim, and a lot of *Paradise Killer* is running around between them corroborating their stories. It doesn't feel rote, though, because it actually feels like any one of them could have committed the crime, and that breadth of possibility is both exciting and nerve-wracking.

I love how *Paradise Killer* lays out all the potential suspects, makes you suspicious of all of them, and then lets you decide how to handle the situation your way. The pace lulled a couple times, but that's a pitfall of allowing players to pursue any lead they want. And *Paradise Killer* hooked me so well that it didn't matter: even when I wasn't playing it was consuming my thoughts.

Paradise Killer sets a new standard for investigative gameplay. I felt untethered and invested in the world's mysteries in a way I've never felt in a detective game before. On top of that, the neon sheen, fantastic soundtrack, quirky characters, and narrative twists make it one of the best whodunits you can play. ■

MEET THE SUSPECTS *Potential Paradise Killer culprits*

HENRY DIVISION

A prime suspect. Most people on the island think that Henry did the crime – but maybe he's a little too obvious?

DOCTOR DOOM JAZZ

A flirt. Don't fall for his charm, you have a mission to do! He's the island's doctor; his medical education is key.

YURI NIGHT

Yuri can be insufferable to speak to, but keep trying. He'll eventually warm up and stop calling you a freak.

CRIMSON ACID

Crimson is the island's idol and all of the humans worshipped her. She also has some great dirt on everybody on the island.

CARMELINA SILENCE

After the murders she became the highest authority on the island. Has a cute dog.

GRAND MARSHAL AKIKO 14

Leader of the island's army. Akiko does not have time for jokes, but does love a good sword.

THE WITNESS TO THE END

Witness' job is to see the destruction of every island from start to finish. Gloomy.

LYDIA AND SAM DAYBREAK

Lydia is your best friend and runs the demon Uber system in Paradise. Sam runs a quaint bar.

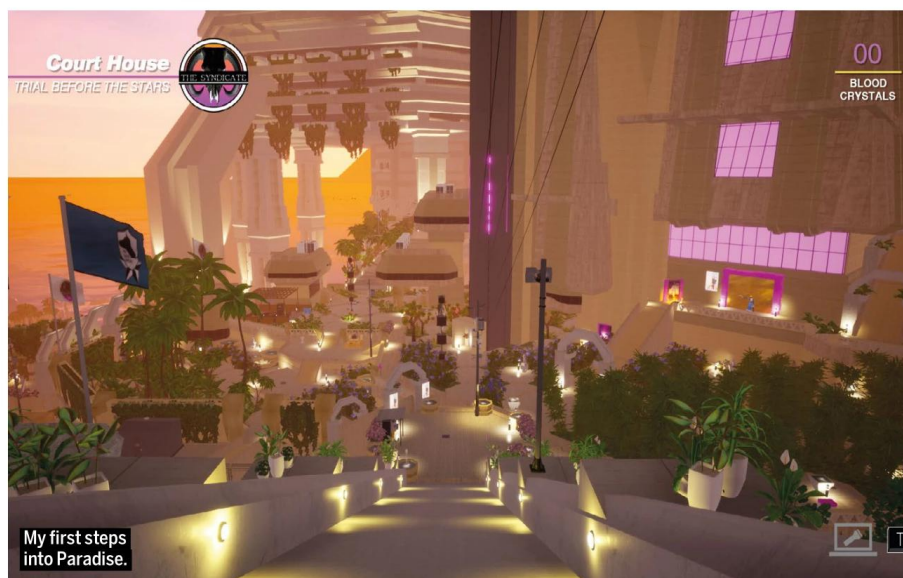
PC GAMER VERDICT

Paradise Killer has fantastic style, and an unforgettable narrative that sets new standards for the detective genre.

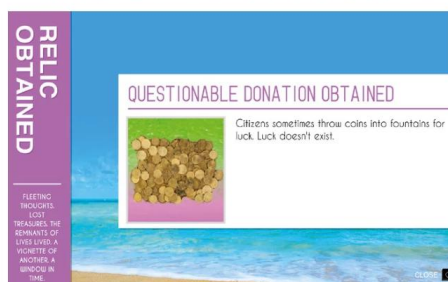
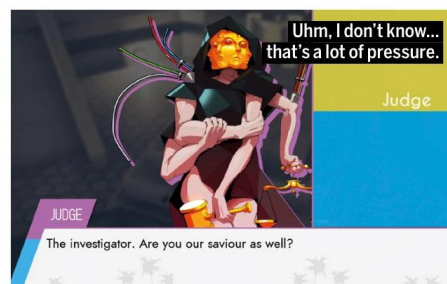
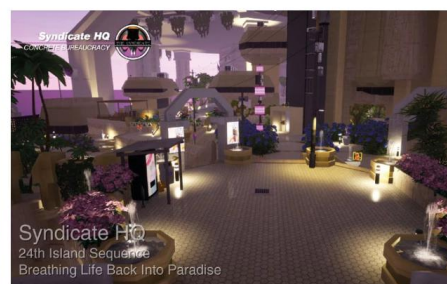
91



Yuri chilling in the garden. Ignore the arm.



My first steps into Paradise.



BELTER

The goods must flow in **FACTORIO**'s transcendent factory management sim. *By Rick Lane*

Let's skip the preamble, shall we? *Factorio* is brilliant. If you're remotely interested in games about management, construction, and above all production chains, then hop aboard the nearest conveyor belt and grab yourself a copy of *Factorio* this instant. Then pick up another copy for the most important person in your life, because they won't be seeing you for a while, and at least this way they'll understand why.

Factorio starts out as all great works of fiction do, with a huge explosion. That would be your spaceship crashing onto a remote alien planet, and the only way off that far-flung rock is to build yourself a whole new rocket. Luckily, you control the handiest person in the entire universe, able to fashion almost anything with little more than spit and elbow grease. Whether it's a furnace, a steam engine, or a refinery, give your little protagonist the ingredients and they'll slap it together like a two-piece jigsaw puzzle.

Yet while your character can craft most in-game objects themselves, the quantities they require them in makes this approach prohibitive. The solution to this gargantuan problem is automation, and that is what *Factorio* is about. Rather than building tools and structures yourself, you instead build processes, making production chains and assembly lines so all the hard work is done for you.

The ways you can do this in *Factorio* vary, but at their core

assembly lines require three key elements: transport belts, assemblers and inserters (see boxout). How you arrange these to construct assembly lines is up to you. For example, creating electronic circuits requires

two resources: copper wire and iron plates. You could create a closed system that assembles those resources specifically for the circuits, complete with bespoke furnaces for smelting copper and iron ore,

and individual assemblers for the copper wire and the circuits themselves. Alternatively you could create bespoke production chains specifically for those components, then find a way to convey them to the assembler that produces circuits.

In this way, *Factorio*'s elaborate, open-ended and utterly engrossing puzzle begins to spin its steel spiderweb through your skull. Every single item in the game can be automated for production, including the items you need to build the assembly lines in the first place. I enjoyed playing *Factorio* from the

Every single item in the game can be automated for production

NEED TO KNOW

WHAT IS IT?
A complex and absorbing factory management game

EXPECT TO PAY
£21

DEVELOPER
Wube Software

PUBLISHER
In-house

REVIEWED ON
Nvidia GeForce 2080 Super, AMD Ryzen 5 3600, 32 GB RAM

MULTIPLAYER
Yes

LINK
factorio.com



first five minutes, but the moment it truly 'clicked' for me was when I established an assembly line dedicated to building assemblers.

SOME ASSEMBLY REQUIRED

This barely scratches the surface of *Factorio*'s chasmal depth. Many mid-tier objects require water as part of their construction, which means building pipelines to your assemblers as well as conveyors. Oil processing is a game in and of itself. Raw materials are limited and will eventually run out, meaning you need to locate new mineral deposits and expand your factory to take advantage of them.

There is one aspect of *Factorio* I'm less enthusiastic about, and that's combat. *Factorio* has a tower-defence element whereby your factory is attacked by ever-growing swarms of alien bugs. Part of me simply doesn't want combat in *Factorio*. I don't want to spend ages setting up an elaborate assembly line only for some oversized beetle to come and ruin it.

The reason *Factorio*'s combat won me over, however, is not so much the function of it, but why the bugs attack. While your sprawling factory is all gravy for you, it's less thrilling for the inhabitants of the planet. All that coal burning and oil drilling generates pollution, and causes the planet's creatures to turn hostile.

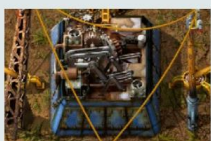
I like that *Factorio* acknowledges the environmental consequences of your manufacturing project, doing so in a way that is delivered through systems rather than some narrative arc. The bug attacks may be a nuisance, but they also serve as a reminder that your actions are as destructive as they are creative. That's the thematic icing on *Factorio*'s stupendously intricate mechanical cake. ■

PC GAMER VERDICT

Factorio is the best management game I've played for ages. It's a manufacturing masterpiece.

91

BUILDING BLOCKS *The beginner's guide to assembly line production*



ASSEMBLER

Inputs resources and combines them into a new item.



TRANSPORT BELT

Mass transport for individual items around your base.



FURNACE

Smelts resources into basic items. Basic but incredibly useful.



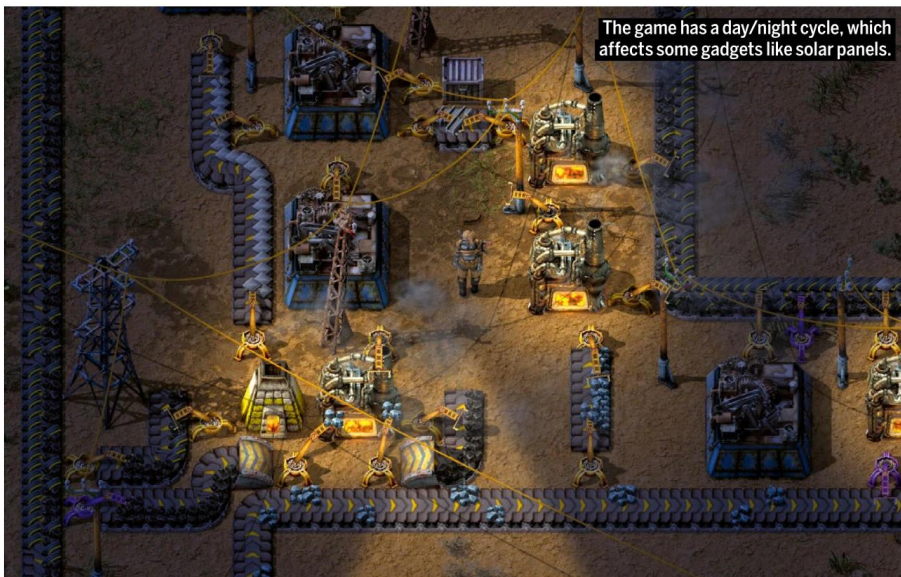
INSERTER

Moves individual items, such as from a conveyor to an assembler.

This assembly line makes oil pumpjacks.



The game has a day/night cycle, which affects some gadgets like solar panels.



Your first few machines run on coal. Most, however, require electricity.



New technologies are unlocked via research.



None of this would be necessary if your character paid more attention at flight school.



TWIN SPEAKS

TELL ME WHY is a narrative adventure game that can't decide what it wants to be. *By Sam Greer*

It's maybe fitting that a game about twins feels split in two. On the one hand, a dark thriller with supernatural horror. On the other, a warm, coming of age drama about identity and family. Both these games have potential, but slammed together, like two colliding trains, they just leave players picking through wreckage. There are good pieces to recover from the pile, but it can't help feeling fractured.

What's worth salvaging are bits and pieces, mostly from an engaging middle portion. Twins Tyler and Alyson are reunited for the first time in ten years since the death of their mother, who we're told Tyler killed in self defence. Now they're revisiting the family home and painful memories are coming back. Up front it's also a story about Tyler's identity as a trans man – his struggles with that identity in his past, and dealing with prejudices in his present.

If *Tell Me Why* was just that, it might well have been among my favourite games this year. Its depiction of rural Alaska is gorgeous and supremely detailed – Dontnod really has an eye for lived in spaces, as well as sprawling vistas. It's just a shame that it feels largely irrelevant to the story being told. I wanted to live in the small town drama, explore Tyler's navigation of a more conservative part of the world and the siblings trying to rekindle their

relationship after so long apart. At times it lives up to the promise, especially in the middle where there are long segments of low stakes drama such as the twins cleaning up their old house or reconciling their grievances with a father figure.

The game is let down here as it is elsewhere by some really simple mechanics, splitting itself between dialogue choices and contextual prompts to use items, and a plethora of dreadfully boring

puzzles. There's literally a sequence where you have to count the items in a stockroom. Yet surprisingly the game's narrative is at its most deft in these sequences, able to pull you into the warmth of the twins' relationship or deliver tender moments as they work through the pain of their past that's gone unaddressed.

It never lasts. Because *Tell Me Why* also wants to tell a dark and mysterious story, with a dangerous hooded figure chasing them while

Its depiction of rural Alaska is gorgeous and supremely detailed

NEED TO KNOW

WHAT IS IT?
Narrative adventure game

EXPECT TO PAY
£25

DEVELOPER
Dontnod Entertainment

PUBLISHER
Xbox Game Studios

REVIEWED ON
64-Bit Windows 7, Nvidia GeForce GTX-970, Intel i7-4790K, 16GB RAM

MULTIPLAYER
No

LINK
tellmewhygame.com

the threat of the supernatural looms over everything. Both these sides of *Tell Me Why*'s story undermine each other. Its thriller storyline is undone by the desire to be kind and respectful to its characters, never presenting them with a serious or troubling threat. The game's gentle coming of age story is equally undone by the hard yank back into its darker overarching story, with its disturbing and occasionally absurd twists.

BUT WHY?

To its credit, Tyler is more than a one-note character, with his aspirations and anxieties sprinkled throughout. While there are missteps, it's clear they're born out of a well meaning effort, and the game goes to great lengths to respect Tyler's identity like few games ever have. The same can't be said of Alyson, however, who largely exists to oppose Tyler's exploration into his past. The rest of the cast is forgettable, though in some ways that can be forgiven as the spotlight is always on the twins. But that makes Alyson's shallowness even more disappointing.

This focus on Tyler's past might have paid off if it weren't for the clumsy way it's handled, its thriller plotline demanding that his past be full of twists that only serve to undermine a trauma, of abusive parents, that is very real for many.

By the end, the game stopped asking me to engage with two believable humans and instead insisted I care about a fantastical, predictable foe. Videogames are so often about the latter that *Tell Me Why*'s abandonment of the former feels like a crying shame. In those brief scenes the game felt like it had something special. Guess it really ain't nothing but a heartbreak. ■

TELL ME STATS *Your decisions will reflect on you*

Tell Me Why retains the result screen from *Life Is Strange* and other narrative games where you are told how other players chose and what percentage of them made each choice. Which meant learning a frankly absurd 86 percent of people were willing to forgive this horrible, horrible woman. Maybe you're all kinder than me, or maybe you're just cowards.



PC GAMER VERDICT

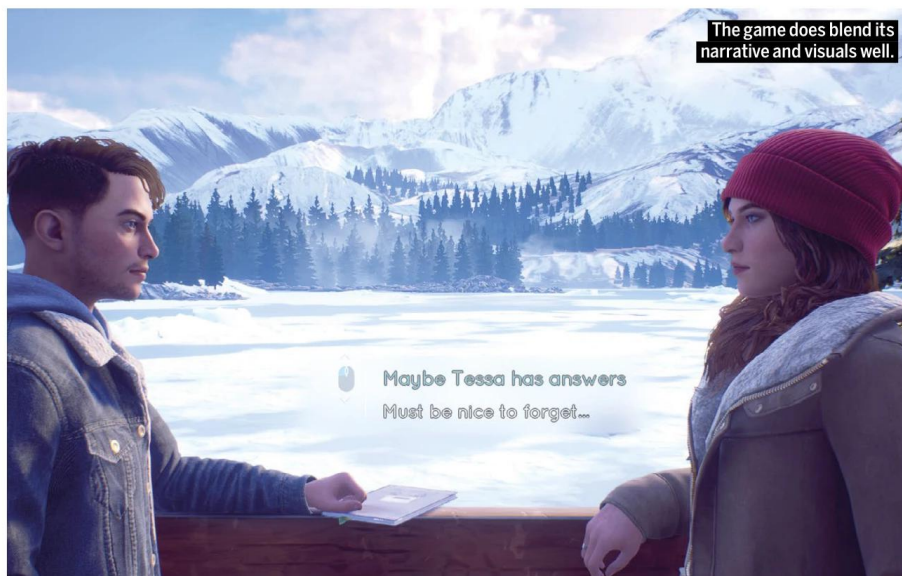
Despite the craftsmanship and obvious heart, *Tell Me Why* feels like a game at odds with itself.

69

The game's choices are mostly binary, but there are many branching paths.



Alyson: And what it means to refuse one.

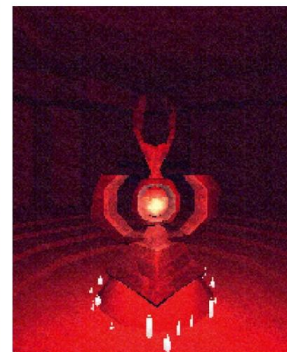
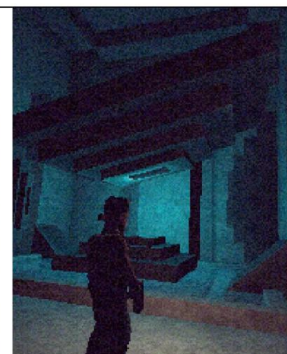
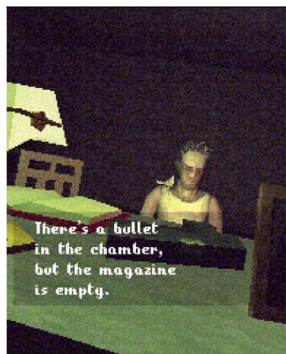


The game does blend its narrative and visuals well.



Its puzzles are painfully straightforward.





SILENT HELL

What lies beneath in brutalist survival horror **THE DEVIL**

Horror is a delicate artform. One area where people frequently mess up is to escalate the action too quickly, to curtail the steady build-up of tension that is essential to give the climax any real meaning. *The Devil* understands this (as does its namesake, presumably), devoting the majority of its playtime to the setup – to the violent crackle you can feel in the atmosphere, like static before a storm.

An enigmatic survival horror game, *The Devil* is set in a big tower that's all brutalist concrete and askew camera angles, and where nobody ever thought to install a lift. You play as a nameless shlub who is sent to investigate a disappearance: someone has gone overboard into the primordial swamp at the bottom of the spire. So off you go, fathoming your way down the structure, the tension building with every ladder you descend, with every cryptic conversation with your fellow drones, and with all the worryingly numerous ammo boxes you collect.

It's a wonderfully bleak, oppressive setting, primarily thanks to the camerawork: a mixture of *Resident Evil*-style close-ups, over-the-shoulder following shots, and super-distant long-shots where

you can barely make out the protagonist. Whatever the camera's doing, it can be difficult to decipher the backgrounds, to work out whether that grainy, pixelly blob is in fact a stash of ammo, or whether that grainy, pixelly recess is the entrance to the next area. I like the PlayStation aesthetic as much as anyone, but here the visual noise feels a little overboard now and again.

It's a wonderfully bleak, oppressive setting

As you descend, you'll learn a little (and I mean a little) about the world from your downtrodden co-workers, while the structure begins to feel less like a factory and more like a monument to some ancient Eldritch horror. Finally, you set foot in the swamp, you find... something in the muck, and that gun you found comes in handy after all.

It's a powerful shift into the second part of the game, and it's

NEED TO KNOW

WHAT IS IT?
Tense survival horror set in a massive tower

EXPECT TO PAY
Free

DEVELOPER
SlugHuman

PUBLISHER
SlugHuman

REVIEWED ON
AMD A4-6300@3.7GHz,
6GB RAM, GeForce
GT 610

MULTIPLAYER
No

LINK
bit.ly/DevilGame

thanks to all that necessary build-up. Now, as you clomp your way back up the tower, you have enemies, health and ammo to worry about, via combat that will be familiar to fans of the *Resident Evil* games.

Combat is simple, but functional, as you cock your pistol and aim at the people running towards you. You don't have enough ammo for everyone, of course, while the camera angles can make it difficult to aim at or avoid your enemies, so after your first tense try at ascending the tower you'll get to do it again, and from a checkpoint miles away. Exhilaration turns to boredom, and then frustration as you die again. I almost quit but then I noticed cheats listed on *The Devil's* itch.io page.

It's a real shame about the stingy checkpointing. After all that build-up, and all that thrilling development getting down to the swamp, it unfortunately felt as if the atmosphere had been popped like a very grey, bleak, brutalist balloon. ■

PC GAMER VERDICT

It doesn't stick the landing, but this taut survival horror is an absolute masterclass in building tension.

73

BLADE RUNNER

Chased by swords in the nightmarish **FEWAR-DVD**

When the world of Game of Thrones invents computer games, I reckon *FEWAR-DVD* will be among its first wave, as it resembles a fever dream about the Iron Throne and its many pointy swords. In each nightmarish stage, your goal is to grab a key, bust a lock, and reach the exit before being done in by the swarm of Excaliburs wagging menacingly in your direction. Most of these swords are essentially walls, but every so often one will get up and fly headlong towards you, making horrible, er, swordy noises as it lunges through the air.

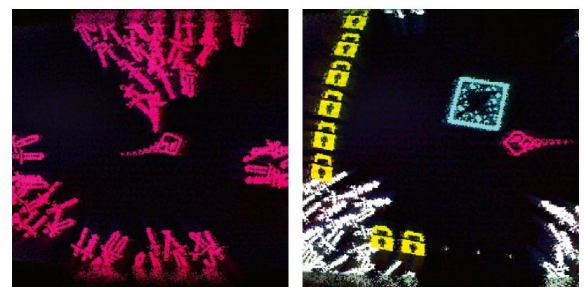
You – an arrow I guess – can vary your speed by pushing the mouse a lot or a little, but you can also dash out of harm's way (or, more likely, into a mass of swords) by left-clicking. Take more than a few hits from either the stationary scimitars

or the moving machetes and you'll be thrown right back to level one.

It's a claustrophobic setting: a pulsating black void reminiscent of *Devil Daggers*, and offering a similarly focused experience. You're drawn into its procedurally generated blade mazes via the creepy ambient soundscape, the intensive physics of the little arrow character, and by dollops of hypnotic visual noise. Once inside this oubliette, it's very difficult to escape – and not just because you can only exit by alt-tabbing. Every run is short enough that you think 'OK, just one more go' and before you know it you've been acupuncture to oblivion. Again. But *FEWAR-DVD* absolutely nails that feeling (or stabs it with the pointy end).

This is a surreal arcade game that you should experience, and that about three of you will fall in love with for an afternoon. ■

77



NEED TO KNOW

EXPECT TO PAY
Free

DEVELOPER
dev_dwarf

LINK
bit.ly/2RKAFeP

PETTING BOO

A PET SHOP AFTER DARK is more than it appears

It's magic, the first time you play something that requires you to tinker about with its innards, as you delve into the game folder to affect changes inside the game. It's a mechanic that's been employed in plenty of indie, generally horror games – as an entity from inside begins to intrude upon the real world – and I always have time for such digital incursion, if it's done well.

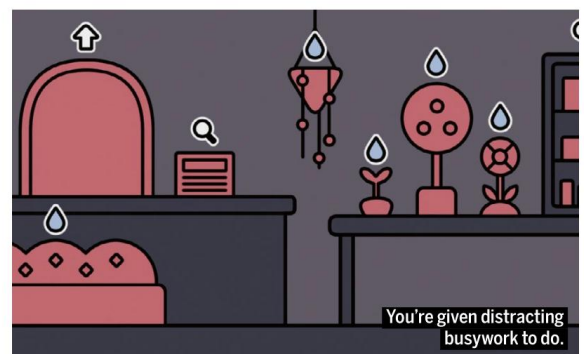
Spooky visual novel *A Pet Shop after Dark* makes good use of it, though it's on the more subtle side of things. It's used for a string of clever puzzles rather than creepy taunting from a digi-spectre. In response to a job notice, you've arrived at a strange pet shop to feed the pets and water the plants, while being cautioned against turning out the lights. Duly follow the instructions and the game will loop until you make a change – and it's

here where *A Pet Shop after Dark* really begins to shine.

As you Alt-tab and alter things, the game world will update, for example with a door appearing as if from nowhere. I've seen more inventive uses of the trick in other games, but I do like how it's handled narratively here, with the player essentially taking control of the story away from the protagonist. She remains, from start to end, baffled about what's happening, and it's consistently funny watching her being confused about what's going on around her.

Compared to other fourth-wall-shattering games, *A Pet Shop after Dark* is smaller, subtler, and quieter as it performs its own version of the magic trick: it's a backroom gig rather than some mega Vegas show. Maybe it isn't quite as skilled a performer, but you'll have a great half-hour or so figuring out its puzzles. ■

80



NEED TO KNOW

EXPECT TO PAY
Free

DEVELOPER
npckc

LINK
bit.ly/2ZWC32j

THEY'RE BACK

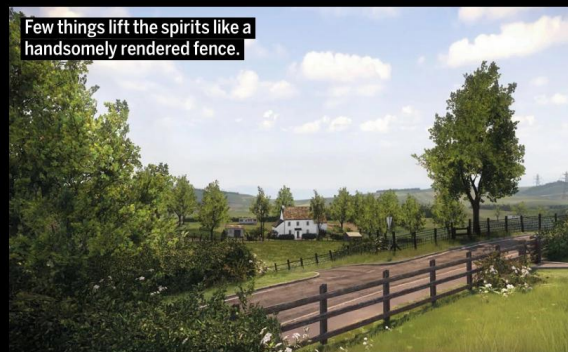
OLD GAMES REVISITED by Matthew Elliott



What an English *Street Fighter* stage should actually look like.



Few things lift the spirits like a handsomely rendered fence.



TAKE ME LORD!

Taking a damp caravan holiday to the past in **EVERYBODY'S GONE TO THE RAPTURE**

Perhaps the greatest compliment I can pay *Everybody's Gone to the Rapture* is that it feels like listening to two BBC Radio 4 shows at once. The first, something cosily bleak about people in knitwear shuffling through the End Times. The second, a standard episode of *The Archers*. Cattle markets. Family arguments. Cider. That might sound like faint praise, but there's something exciting about playing a game that feels so gently familiar.

It's still apocalyptic, of course, but in a way that encourages quiet exploration rather than chaos. It's lovely to play a game where the fall of civilization is characterised not by ghouls and ragged melee weapons, but by encroaching dandelions and empty pubs. Doom has only just arrived here; the super-mutants may yet reach Yaughton, but right now the end of the world is still unpacking its luggage.

As a game, it's an unusual experience. I occasionally lose the thread of the glowing yellow conversation orbs and find myself stumbling around Yaughton like the village drunk, except that all English villages in the 1980s had multiple drunks, each with varying levels of belligerence and casual racism. Trying to work my way back to the right conversation orbs is like

returning to the point I was just trying to make: we got here in the end, but not before a meandering detour. I don't mind this, because it's another excuse to see more of a location that feels like a tinny, village fete echo of the place where I grew up.

Everything from the whitewashed boozer to the tired toy phone in the doctor's surgery feels familiar. I do wonder, however, what other people get out of it. Perhaps this is what

Tokyo residents think about English men from Rutland playing *Yakuza* games? Or perhaps Yaughton is their Kamurocho, with accurately-rendered soaplands swapped out for 'Give Way' signs. It's also a strange game to go back to in 2020, post-Brexit, intra-COVID. This isn't a setup for a soul-searching paragraph about lost communities but it's a

Right now the end of the world is still unpacking its luggage

NEED TO KNOW

WHAT IS IT?
Wearing dead grandparent's cardigan: the game

EXPECT TO PAY
£16

DEVELOPER
The Chinese Room

PUBLISHER
PlayStation Mobile, Inc

REVIEWED ON
Intel Core i7-7700 CPU @ 3.60GHz, 16 GB RAM, NVIDIA GeForce GTX 1070, Windows 10

MULTIPLAYER
No

LINK
https://store.steampowered.com/app/417880/Everybody's_Gone_to_the_Rapture/

reminder that for some people, this insular, inert version of Britain is the future. 'Yes, everybody has disappeared, Pamela, but at least there are no foreigners!' A less depressing way of looking at it is that perhaps this is the best way to explore a lost but familiar location.

BUSMAN'S HOLIDAY

It's impressive how much *Everybody's Gone to the Rapture* manages to believably cram into one location, too. There's room for a grey holiday camp, complete with perpetual rain, which is evocative in a different way. One person's soggy village to escape from is another's wistful holiday destination. Similarly, Yaughton's rolling hills and scattered ludo pieces are still an ideal getaway for anyone weary of brutal melee takedowns, rocket launchers, or obligatory stealth sections. There's never any need to rush. There's very little to do here. And that, in itself, can feel like a holiday. ■

PC GAMER VERDICT

Slow and poignant, *Everybody's Gone To The Rapture* is a unique way to explore the past without yearning for it.

78

AI LOVE YOU

Romance blossoms in RIMWORLD

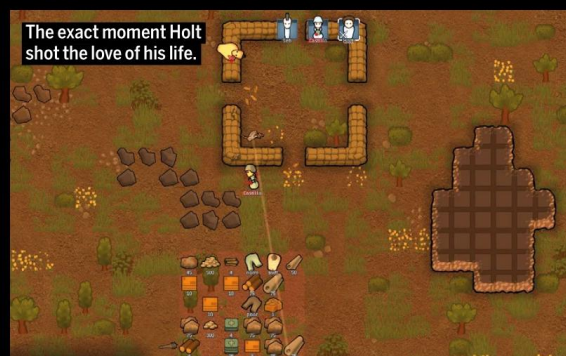
In hindsight, selecting a medieval sailor to join my landlocked team of colonists won't make it onto Matt's Big List of Brilliant Ideas. It's not just the lack of sea that's an issue – more Kenneth Holt's refusal to cook. Or build. Or, indeed, perform any kind of skilled labour. He's as much use on shore as a jellyfish stuffed inside a man-suit. Meanwhile, Zoe Castillo, my proactive, multi-talented ex-civil servant, is busy lugging sandbags, fashioning beds, and preparing meals for her ungrateful cohorts. I also have Seb, a punky coma child whose miserable history results in a boost to his social skills. Thanks, pity!

Just as I'm contemplating a hard reset and starting again with a more balanced team, something wonderful happens. Castillo gets maimed fighting bandits (that's not the

wonderful bit) and falls in love with Holt as he nurses her back to health. Not only have I found something Holt can actually do, but it's injected fresh purpose into the whole experience. Suddenly, I'm not just wrangling fleshy pawns as they scamper around a temperate forest. I'm managing *people*.

The treacly UI sometimes takes me out of the moment but it's so nice to play a game that lets me embrace disaster. And there's plenty to embrace. Holt takes it upon himself to gun down a rat that's scampered too close to camp, but his aim is as good as his DIY. He shoots at his target just as Castillo blunders into his line of fire. She survives, but not before she has to relocate from her marital bed to the hospital one while Holt, once again, nurses her back to health. It'd be romantic if he wasn't the one who shot her. ■

87



NEED TO KNOW

EXPECT TO PAY
£27.80

DEVELOPER
Ludeon Studios

PUBLISHER
In-house



NUCLEAR THRONE

There's something wonderful and desperate about the Steam reviews for *Nuclear Throne*. Endless lists of people who've spent thousands of hours chained to a game they love nonetheless. And even after a few minutes, it's an easy compulsion to understand. It's one of those games where every stumbling step forward feels like a triumph, where you're spoonfed enough success to feel capable before you're splattered by a projectile you should have seen coming. The way *Nuclear Throne* looks, and, more importantly, sounds, informs every bad decision you make, and before long everything is working in chaotic unison to deliver one of the most enjoyable roguelikes around. ■

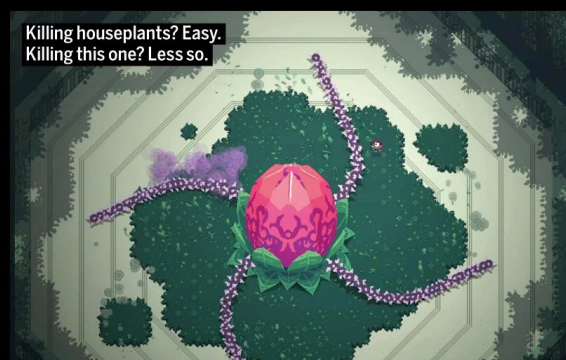
89



INTO THE BREACH

You know that drawer of old phone chargers, foreign coins, and proprietary cables you have near your PC? *Into the Breach* is like the best game ever made about removing the wire you want. You can gently tug at that USB-C, see what it's wrapped around – but eventually you'll give up and send Krona and half-spent batteries cascading across your floor as you yank out every cable except the one you want. Here every action presents deeply intertwined outcomes. Sometimes you scrape victory from the most hopeless situations; others, you accidentally send a wasp the size of IKEA flying into the train you were meant to protect. Excruciating, rewarding, brilliant. ■

92



TITAN SOULS

The last entry this month is a game full of ruined structures, which at least suggests someone somewhere built them before disappearing – or perhaps they were frozen by the inhabitants of said ruins. It's like playing a puzzle game, with someone else's severed hands. At first the success comes from just working out what to try before you get squashed. Firing off your lone arrow is an entirely different challenge and a full quiver looks like pure decadence. ■

82

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HARDWARE

GET THE HARDWARE YOUR GAMES DESERVE

88

TECH REPORT

The controversial world of internet space lasers.



90

BUYER'S GUIDE

Build your perfect PC with our expert advice.



84

GROUP TEST

The best gaming laptops on the market.



GROUP TEST

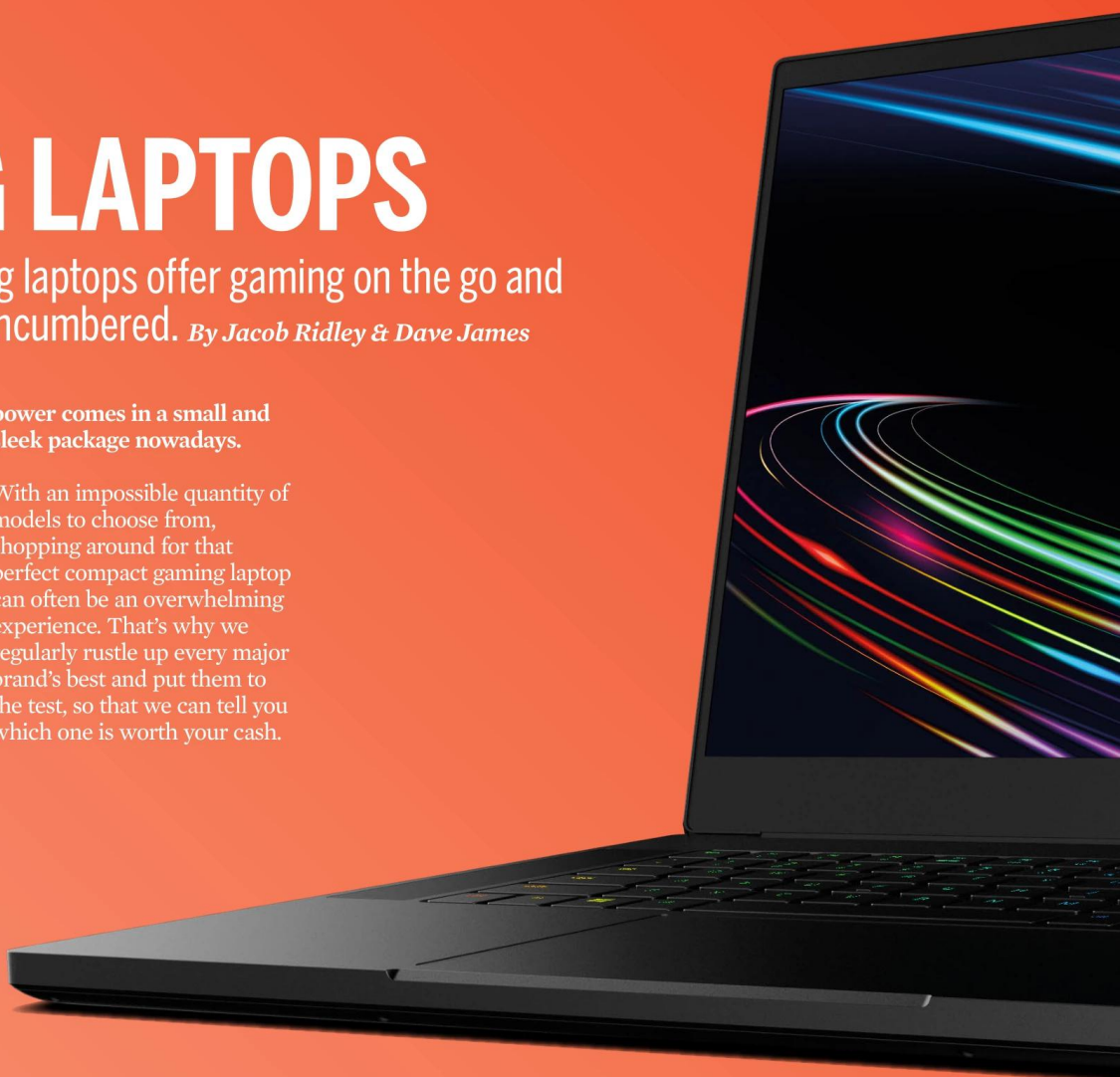
GAMING LAPTOPS

These powerful gaming laptops offer gaming on the go and won't leave you over-encumbered. *By Jacob Ridley & Dave James*

The days of hulking, plastic-clad gaming laptops are over. Well, nearly over. You may find one or two behemoths undercover as 'desktop replacements', such as the Aorus 17X, complete with two power adapters. But beyond these fated few, you might be surprised by how much

power comes in a small and sleek package nowadays.

With an impossible quantity of models to choose from, shopping around for that perfect compact gaming laptop can often be an overwhelming experience. That's why we regularly rustle up every major brand's best and put them to the test, so that we can tell you which one is worth your cash.



2





SINGLE OR DUAL-CHANNEL?

You'll only find out whether your device is equipped with dual or single-channel memory if you dive into the specs. It's an important marker of performance, however, especially for gaming.

It really comes down to physical hardware configuration – the actual RAM sticks inside your laptop or desktop PC. Dual-channel memory will often mean you have two or more discrete RAM sticks fitted into your system, most often either in a 2x8GB or 2x4GB configuration and for a total of 16GB or 8GB. Single-channel memory tends to be just a single stick of RAM: 1x8GB or 1x16GB.

The issue here is that CPUs and motherboards offer two or more channels for data to travel between your chip and your RAM. With only a single stick of RAM installed, you're only making use of a single channel, ergo only half the available bandwidth is being utilised.

How this affects performance depends on the applications you're using regularly. While dual-channel is superior for every case imaginable, you may get away with single-channel for some less intensive games. If you intend to use a laptop for creative purposes, say Adobe applications, you'll want dual-channel. And if you're looking at one of AMD's mobile Ryzen processors with built-in graphics, you'll want to make sure you're running with two sticks for optimal performance.

Blade 15 (2020)

RAZER £1,700

The best gaming laptop

1 The new Razer Blade 15 takes an otherwise superb laptop and makes it even better. You'll need to make a choice between the Base Model and the Advanced Model, and each one offers its own wide range of options.

Both models come with a choice of RTX 20-series GPU: up to an RTX 2080 Super Max-Q with the Advanced Model and up to an RTX 2070 with the Base Model. One of the major considerations between the two is your choice of either eight-core or six-core Intel 10th Gen CPU. That means whichever way you look at it, you'll be privy to the

latest gaming technology and performance on-the-go.

Your choice of screen ranges from 144Hz FHD to OLED 4K. There's also a 300Hz FHD model if you're chasing competitive gaming accolades. It's that wide span of components and high level of customisation that has the Razer Blade 15 (2020) sitting in the top spot: you can find a near-perfect combination for your budget and requirements. And for a 15-inch design it's slim too.

PC GAMER VERDICT

- Unparalleled build quality
- Wide range of options
- Great battery life

SPECS CPU: 10TH GEN INTEL CORE / GPU: UP TO NVIDIA RTX 2080 SUPER MAX-Q / RAM: UP TO 16GB DDR4-2933 / SCREEN: FULL HD 144HZ, 300HZ, OR OLED 4K 60HZ / STORAGE: UP TO 1TB SSD / BATTERY: UP TO 80WH

G3 15

DELL £769

The best budget gaming laptop

2 Shopping for a budget gaming laptop is fraught with danger. You never know whether a machine is too good to be true, and actually has some major flaw lying in the chassis that will bite you in your bank account a year or two down the line when you have to buy yet another laptop.

It's for that reason that we love the Dell G3 15. It's simple, reliable, the battery is surprisingly good, and you definitely won't have to fret about whether it will end up leaving you stranded in 12 months time.

With a GTX 1660 Ti at its centre, you won't be able to

experience ray tracing on the move like you might the Razer Blade. However, that's a great GPU for playable 1080p gaming in the latest titles, and can even put the 144Hz panel to good use.

Dell has a great reputation and that's exactly what you want with a budget gaming laptop. Every model comes with dual-channel memory, either 8GB or 16GB DDR4, and you'll be able to boot it up in an instant courtesy of a quick NVMe SSD.

PC GAMER VERDICT

- Affordable configuration options
- Good battery life
- Powerful components

SPECS CPU: UP TO INTEL CORE I7 10750H / GPU: UP TO NVIDIA GTX 1660 TI / RAM: UP TO 16GB DDR4-2933 / SCREEN: 15.6-INCH FULL HD IPS 60/144HZ / STORAGE: UP TO 512GB SSD / BATTERY: UP TO 68WH

ASUS HAS SETTLED ON A CLEVER MIX OF COMPONENTS TO HIT THAT SWEET SPOT WITH THE TUF A15



3

TUF A15

ASUS £899

The best mid-range gaming laptop

3 If you're happy to spend just a little more on your gaming laptop than the Dell G3, but not quite to the fiscal downpour required by the Razer Blade 15, then the Asus TUF A15 is a great choice. A resolutely mid-range laptop through and through, Asus has settled on a clever mix of components to hit that sweet spot with the TUF A15.

At its core is the AMD Ryzen 7 4800H (Ryzen 9 4900H available), an eight-core processor from the much-lauded Renoir generation of mobile chips. It's built using the Zen 2 architecture, the latest 7nm process, and comes with a

Radeon Vega 7 GPU built-in. But you needn't settle for integrated graphics power with the A15 as it also comes packing an Nvidia RTX 2060. It may be the entry-level RTX card out of the lot, and therefore not particularly great for ray tracing, but it brings with it the ability to enable Nvidia's AI supersampling technology, DLSS. Whether you enable DLSS or extra smooth gaming or not, the TUF A15 is fit for an excellent experience.

PC GAMER VERDICT

- Impressive 8-core AMD APU
- 90Wh battery
- 144Hz FHD screen

SPECS CPU: UP TO AMD RYZEN 9 4900H / GPU: UP TO NVIDIA RTX 2060 / RAM: 16GB DDR4-3200 / SCREEN: 15.6-INCH FULL HD IPS UP TO 144HZ / STORAGE: UP TO 1TB M.2 NVME (1TB HDD OPTIONAL) / BATTERY: 90WH

GS66 Stealth

MSI £1,499

The most stylish gaming laptop

4 It's not just a clever name, because MSI's Stealth really is one of the stealthiest gaming laptops you can buy. What do we mean by that? Well, if you're a high flying business human, busy doing business, then you're going to want a gold-trimmed machine that will be at home as much in the boardroom as at a LAN party.

With a range of 20-series Nvidia RTX graphics cards (the mobile 30-series cards will take a while to filter into gaming laptops) and 16-series GTX GPUs, the GS66 is able to be specced out with whatever high-end silicon you could wish for. One thing to

note, however, is that because we are looking at a thin gaming laptop here, you need to be realistic about the parts you pick. We've tested the GS66 with an RTX 2080 Super inside it, and GPU performance unfortunately becomes compromised in the slimline chassis.

With a GTX 1660 Ti or RTX 2060, however, the GS66 Stealth will make a powerful gaming machine that fits its thin, light and lovely looking frame.

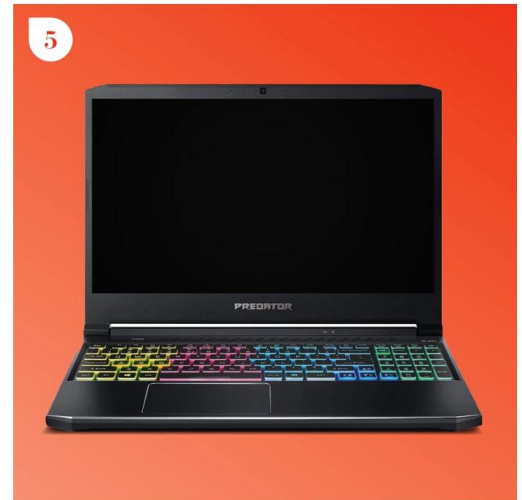
PC GAMER VERDICT

- Sleek and powerful
- Long battery life
- 300Hz screen

SPECS CPU: UP TO 10TH GEN CORE I9 / GPU: UP TO NVIDIA RTX 2080 SUPER (JUST DON'T) / RAM: UP TO 64GB DDR4-3200 / SCREEN: 15.6-INCH 4K IPS, 240HZ OR 300HZ FULL HD IPS / STORAGE: 2X M.2 NVME / BATTERY: 99.9WH



4



5



6

Predator Helios 300

ACER £1,499

Mainstream gaming laptop goodness

5 The Predator Helios 300 has long been a mainstream darling, offering Acer's high-end gaming laptop heritage but in a far more reasonable, affordable form. It's a device that we've long been happy to recommend in its myriad forms over the years, and it's only getting better. The whole Predator lineup has been upgraded recently to sport the latest Intel 10th Gen mobile processors and, while that will put you on the absolute latest numerical spec from the big blue chip making machine, it's not wholly necessary. The 9th Gen mobile CPUs are almost identical

to their new 10th Gen siblings, and so these older Helios 300 machines are absolutely still worth checking out. They're likely to be cheaper than the newer design and still mostly sport the same graphics card options.

We like the Core i5 with GTX 1660 Ti pairing, it's a great low-cost option that will deliver the goods when it comes to 1080p gaming performance and enough CPU power to cope with all but the most intense tasks.

PC GAMER VERDICT

- Great value
- Decent battery life
- GTX 1660 Ti pairing

SPECS CPU: UP TO INTEL CORE I7 9750H / **GPU**: UP TO NVIDIA RTX 2060 / **RAM**: UP TO 16GB DDR4-2666 / **SCREEN**: 15.6-INCH FULL HD IPS 144HZ / **STORAGE**: UP TO 512GB M.2 NVME / **BATTERY**: 58WH

ROG Zephyrus G14

ASUS £1,799

The best gaming laptop for raw processing power

6 The Asus ROG Zephyrus G14 is not your average gaming laptop. It's something quite special. I'm not talking about the machined magnesium-aluminium 14-inch chassis either. It's more that it highlights AMD's performance lead over Intel in the mobile CPU stakes.

The currently Asus-exclusive Ryzen 7 4800HS is a monster of a laptop chip, smashing anything Intel has been able to produce in terms of pure processing performance. It's essentially the same Renoir eight-core, 16-thread chip but one that will Turbo up to 4.3GHz, slightly higher than the

4800H in the TUF A15. You can also squeeze a 1TB SSD, upgrade to 32GB of 3,200MHz RAM, and a 120Hz IPS-a-like 1080p screen.

Packing the RTX 2060 Max-Q into its 14-inch frame the G14 is an impressively capable machine that's able to mix productivity prowess with genuine 1080p gaming performance. Ray tracing might be a bit of a stretch for serious frame rates on the RTX 2060, but for anything else the G14 is going to nail it.

PC GAMER VERDICT

- Incredible CPU performance
- Beautifully vibrant screen
- Gorgeous design and materials

SPECS CPU: UP TO AMD RYZEN 7 4800HS / **GPU**: UP TO NVIDIA RTX 2060 MAX-Q / **RAM**: UP TO 16GB DDR4-3200 / **SCREEN**: 14-INCH 1440P/1080P 60HZ IPS, 1080P 120HZ IPS / **STORAGE**: 512GB, 1TB M.2 NVME / **BATTERY**: 76WH

Taken from the ISS, this shows the Earth with aurora. The bright specks above the atmosphere are Starlink satellites.

LINK TO THE STARS

How a plan for global internet access has annoyed astronomers

Ever since Tech Report started running in these hallowed pages, I've been itching for the chance to write about space lasers. And now that glorious time has come. Oh, happy day! Space lasers!

These particular space lasers belong to Elon Musk, the South Africa-born entrepreneur who has a reputation for being, shall we say... a touch eccentric. When not sending cars into space he's been busy recently, not just becoming a father but setting up his Shanghai 'Gigafactory' to produce Tesla cars and launching up to 60 satellites at a time on top of SpaceX Falcon 9 rockets to create the Starlink constellation, which when complete will wreath the Earth in thousands of satellites, providing broadband internet access and communicating with lasers. In space. Space lasers. Yeaaaaah!

OK, so it's not Moonraker, although some wags have mentioned the similarities between Musk and certain Bond movie characters. We have seen absolutely no evidence that he even owns a white cat. He is, however, seen as a villain by some astronomers and astrophotographers, who fear the constellation, which could grow as large as 12,000 satellites in three orbital shells, could block their views of the night sky. Photographs have already been taken that show Starlink interfering with views of the void, and there are fears that it could grow much worse.

LIGHT READING

So is losing the ability to photograph the stars in the night sky worth the trade-off for convenient, satellite-delivered broadband? And will the connection be any good for gaming anyway? We're starting to get an idea.

Beta testing in August using only a partial constellation generated download speeds up to 60Mbps and uploads of up to 18Mbps. Since then it has stepped up a notch, "Super low latency and download speeds greater than 100Mbps," proclaimed the Starlink Twitter account following further tests at the beginning of September. This sounds promising, though makes no mention of the upload speeds that are more important to online gamers than they are for general internet surfers. The US Air Force Research Laboratory was able to demonstrate a link of 610Mbps between Starlink and a moving aircraft in 2019, so we know there's more fatness in them there pipes. Sixty of the satellites should be able to handle a terabit of bandwidth.

Latency should be well within gaming limits thanks to the satellites' position in low Earth orbit (LEO). This is an altitude of 1,200 miles or less (for context, the ISS orbits at about 250 miles up, GPS satellites are at 12,540 miles, and a satellite in geostationary orbit, where it always stays above the same part of the Earth's surface, is 22,236 miles up – examples include the Astra satellites used for digital TV). As the signal carrying your data travels at the speed of light, we're looking at



Not a new idea

Satellite broadband has been around for a while, and is popular in extremely rural areas far from cable connections. It's not the fastest, delivering up to 20Mbps according to Which?, and with a killer combo of high latency and low download limits. Starlink appears to massively improve on this, if it lives up to Musk's promises.



FAR LEFT: Taken with an iPhone over 25 minutes, the curved lines are stars but the straight ones are satellites, with Starlink making up the closely packed ones.

LEFT: This British Council satellite receiver, photographed in Nigeria, is much larger than those used by Starlink.

BLAST OFF *The technical wizardry of the Falcon 9 rocket*



1 ROCKET
The Falcon 9 rocket costs around \$62 million. It uses liquid oxygen and rocket-grade kerosene.



2 LAUNCH
A Falcon 9 performs another successful launch from the Kennedy Space Centre, Florida.



3 SATELLITES
Sixty Starlink satellites ready for deployment from the Falcon 9 rocket above the Earth.



4 BOOSTER
Falcon 9's reusable booster section landing on the drone ship in May this year.

just six milliseconds to get up there, then the same down again, plus a bit for processing. If you're aiming for less than 100Mbps latency, then Musk may have you covered. It's not just gamers who worship low ping, high-frequency financial traders like it too, and they're prepared to really pay for the privilege, so expect the gaming services and provision of high-speed internet to areas of the Earth currently underserved in that area to follow in the stock markets' wake.

Thanks to their low orbit, Starlink satellites appear to move when observed from the surface of the Earth, and the base stations need to move to track them. These stations, described as a "UFO on a stick" by Musk after a clever data-miner pulled some now-deleted images out of the source code of the Starlink website and posted them on Reddit, just need to be plugged in and pointed at the sky. The instructions, Musk notes "work in either order". In March, the FCC gave SpaceX permission to deploy up to a million of these ground stations, which are only about half a metre across.

THROWING SHADE

This low orbit is also part of the cause for the satellites' extreme shininess, brighter than 99 percent of existing objects in orbit, which is currently enraging astronomers. They're made of shiny metal, and there are a lot of them. One satellite, dubbed 'Darksat' was launched with a special coating that absorbed 55 percent of the light that hit it rather than reflecting it, but it was abandoned after becoming too hot. A second experiment, 'Visorsat', has a fold-out visor,

transparent to radio waves, that should shade the satellite's antennas from sunlight, reducing the amount they reflect.

As for the lasers, well, they're coming. Early satellites launched without lasers, and testing of the system only began as I was preparing this article, with two of the craft successfully firing their prototype lasers. Once it's added to the whole fleet, the satellites will have a high-bandwidth line-of-sight system to directly link two or more satellites above specific base stations, rather than hopping the signal between neighbouring birds, as happens at the moment. Each satellite is essentially a flattened Wi-Fi router with a whacking great solar panel sticking up from its back. A roll manoeuvre,

using the satellites' thrusters, has been proposed to angle the flat surfaces away from the sun, reducing the glare from reflections further.

"Like many astronomers, I am very worried about the future of these new bright satellites, but I'm looking

forward to productive conversations between astronomers and SpaceX," says Megan Donahue, president of the American Astronomical Society. "I fully expect that we will come up with creative solutions. I think it's commendable and very impressive engineering to spread the information and opportunities made possible by internet access."

Worldwide internet access is a laudable aim, and perhaps Musk isn't so much of a villain after all. However, one of the mounts that connects the Starlink base station to your house is called the 'Volcano mount', so the possibility of a hidden base full of henchmen is still there. ■

Ian Evenden

EACH SATELLITE IS ESSENTIALLY A FLATTENED WI-FI ROUTER WITH A WHACKING GREAT SOLAR PANEL

YOUR NEXT PC

BUYER'S GUIDE

Build the best PC for your budget



KEY

Budget build

PC gaming is for everyone. Pick the parts you want to build a new, well-rounded PC for a good price.

Mid-range build

You want to run every new game at 1080p 60fps. This recommended build will see you through.

Advanced build

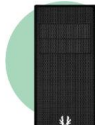
You're looking for the best PC on the market and superior components. But you still want to spend smart.

BUDGET BUILD

Enjoy 1080p gaming without breaking the bank



TOTAL
£849

MOTHERBOARD		B450-A Pro Max MSI £95 A healthy dose of ports and PCIe SSD support has this B450 at the heart of our budget build.
PROCESSOR		Ryzen 3 3300X AMD £115 AMD has packed its latest Zen 2 architecture into a speedy four-core package, and that's great for gaming.
GRAPHICS CARD		GeForce GTX 1650 Super Gigabyte £165 The GTX 1650 Super is much more than a rebrand of the GTX 1650, securing it the budget crown.
COOLER		Wraith Stealth AMD Free with the CPU Gone are the days when a stock cooler was little more than a bonus paperweight. AMD's Wraith Stealth delivers.
MEMORY		Vengeance 8GB DDR4 (2x4GB) Corsair £40 The new norm for gaming is 16GB, but dual-channel 8GB memory is enough to get by for most.
POWER SUPPLY		CX Series CX550 Corsair £74 Corsair's reputation for quality PSUs precedes them. You know you're in safe hands here.
SSD		WD Blue SN550 500GB Western Digital £67 Just because it's a budget SSD, doesn't mean it has to be slow, as the WD SN550 proves with its speedy NVMe connectivity.
HDD		WD Blue 1TB 7200rpm Western Digital £37 You don't necessarily need a HDD in 2020, but if you're a virtual hoarder, this'll give you loads of useful extra space.
CASE		Neos BitFenix £36 You'll want to minimise how often you rebuild your PC, so make sure to give it a good home. This case'll do nicely.
DISPLAY		GW2280 BenQ £105 A 1080p60 VA monitor will see you through in style and, once you upgrade, will make a superb second monitor.
KEYBOARD		G213 Logitech £40 It may be a membrane switch board, but it's stylish, and well-built. Sometimes that's worth more than cheap clicky switches.
MOUSE		G102 Logitech £35 A classic shape delivered in a sleek shell, this mouse fits all hand sizes and grips. A solid option for the money.
HEADSET		HS35 Corsair £40 This headset delivers in-game with its punchy drivers and clear microphone – perfect for video calls and multiplayer alike.

MID-RANGE BUILD

Our recommended build for playing the latest games



TOTAL
£1,455

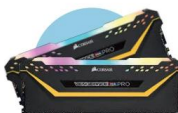
MOTHERBOARD		B450 Tomahawk Max MSI £120 A reliable platform for your build, the Tomahawk Max also comes in black to complement any style.
PROCESSOR		Ryzen 5 3600X AMD £198 This CPU is one of the greats, and uses the Zen 2 architecture to dominate in gaming and productivity.
GRAPHICS CARD		GeForce RTX 2060 KO GAMING EVGA £320 The RTX 2060 is a taste of the good life, where frame rates are high and real-time ray tracing is possible.
COOLER		Wraith Spire AMD Free with the CPU We love a freebie, especially one as capable as the cooler included with the 3600X. This'll keep your machine running smoothly.
MEMORY		Ballistix 16GB DDR4 (2x8GB) Crucial £75 With plenty of capacity at 16GB, this unembellished memory has everything you need for gaming and more.
POWER SUPPLY		CX650M Corsair £93 The heart of your gaming PC is your PSU, and this 650W Corsair promises to keep your rig ticking nicely.
SSD		S70 1TB Addlink £150 Building on a budget doesn't mean sacrificing speed—the Addlink S70 proves you can indeed have both.
HDD		WD Blue 1TB 7200rpm Western Digital £37 Just like in the budget build, this HDD isn't strictly necessary, but for a pretty low price it's nice to have plenty of extra space.
CASE		Eclipse P400S TG Phanteks £70 An ATX case is all you need for this build. We like this one because it's simple, functional, and really nice to look at.
DISPLAY		AOC G2590FX AOC £173 Everything a PC gamer could want: 144Hz refresh rate, 1ms response time, and it's AMD FreeSync and Nvidia G-Sync compatible.
KEYBOARD		Alloy FPS HyperX £80 As the name suggests, this keyboard is built like an absolute tank, with a steel frame and Cherry MX switches.
MOUSE		Model O- Glorious £59 Lightweight and responsive, the Model O- has made a name for itself among streamers and pros thanks to its clever design.
HEADSET		Cloud Alpha HyperX £80 Does it get any better than the HyperX Cloud Alpha? Well, yes, but not anywhere close to this sort of price point.

ADVANCED BUILD

Go above and beyond with a PC powerful enough to end worlds



TOTAL
£3,666

MOTHERBOARD		MPG Z490 Gaming Carbon WiFi MSI £260 A heady mix of enthusiast motherboard functionality and build quality that stops short of god-tier motherboard pricing.
PROCESSOR		Core i9 10900K Intel £529 If you want the fastest gaming CPU, look no further than Intel's flagship Core i9.
GRAPHICS CARD		GeForce RTX 3080 Founders Edition Nvidia £649 The RTX 3080 is the flagship graphics card of an entire new GPU generation.
COOLER		Kraken X63 NZXT £123 One of the most stunning AIO coolers rebuilt with an updated pump and, of course, RGB lighting for more pizzazz.
MEMORY		Vengeance RGB Pro 32GB DDR4 (2x16GB) @ 3,200 Corsair £176 If you truly want to show off, even your system memory should be aglow in RGB.
POWER SUPPLY		SuperNOVA 1000 G5 Gold EVGA £200 This calibre of gaming PC draws a lot of power. Thankfully, this PSU can handle it with high efficiency.
SSD		WD Black SN750 1TB Western Digital £169 Western Digital are back on Samsung's heels with this brilliantly fast, yet affordable, 1TB M.2 NVMe SSD.
HDD		860 QVO 2TB Samsung £195 Built on QLC flash memory, it's not the quickest storage around, but it's a speedy alternative to a HDD.
CASE		600C Corsair £135 If you're going big on parts, you should grab a case that has plenty of room for upgrades down the line. This one will do just fine.
DISPLAY		Nitro XV273K Acer £780 This one's an easy choice – 4K and 144Hz for under a grand is an offer we can't refuse, and neither should you.
KEYBOARD		G915 Lightspeed Logitech £210 Low-profile mechanical switches are just the icing on the cake that is the superb, wireless Logitech G915.
MOUSE		G502 Lightspeed Logitech £110 With a lengthy battery life and a phenomenal sensor to keep you gaming at your best, the G502 is undoubtedly one of the finest.
HEADSET		Arctis 7 Wireless SteelSeries £130 If you've settled on a wireless keyboard and mouse, the last thing you want is a pesky cable to your headset.

EXTRA+LIFE

CONTINUED ADVENTURES IN GAMING

If only a truck full of larger buckets fell over so we could clean this up.



“Like QWOP, the challenge is simply to move forward without eating dirt”

Taking things step-by-step in **STILT FELLA**

One day, while waiting for our Dungeons & Dragons crew to filter into Discord, our barbarian started streaming a game called *Stilt Fella*. I was mesmerised by the fella: his look of determination, his teetering gait, the way he emits a long “hgnnnn” while straining to stay upright before falling on his ass.

It became a pre-D&D tradition to watch a level or two of *Stilt Fella*, and after a few viewings I felt incapable of resisting the urge to try it. It has the devilish appeal of a hard-to-open jar. You know in the rational part of your brain that it makes no difference whether you or someone else struggles to open the stuck jar – it’s

▶ **TYLER WILDE**



THIS MONTH
Enjoyed Hell’s version of taking a walk.

ALSO PLAYED
Fall Guys, Rocket League

stuck, and the disparity between your hand strengths probably isn’t that big – but then a monster in your subconscious busts in and tells you to dig trenches into your hands until they bleed or else someone’s going to steal your jar-opening glory. Seeing another person struggle with *Stilt Fella* activated that irrational need to prove my worth, except through virtual stunt stilt walking instead of jar opening, which really would’ve

been more useful since at the end of it you have an open jar, presumably full of something pickled. I could go for some pickled cabbage. Instead I’m just failing to walk on virtual stilts.

Like the Bennett Foddy classic *QWOP*, the challenge of *Stilt Fella* is simply to move forward without eating dirt. With a controller, the left and right triggers lift the left and right stilts off the ground, and the analogue sticks move them forward and backward. There’s no side-to-side movement, and I wouldn’t want

TRYING TO STUMBLE OVER BOXES LIKE THE SHITTIEST BOSTON DYNAMICS ROBOT



there to be. Just getting used to moving forward is hard enough.

After 30 minutes of practice, putting one stilt in front of another starts to become more or less second nature, in the way that I don't consciously think about every step I take when I'm actually walking. But then *Stilt Fella* throws in half-walls, stairs, gaps, spilled buckets, catapults, and moving platforms. Encountering an obstacle switches off the muscle memory and sends my balance to hell. Walking is only easy when it's happening in the parts of my brain that I don't consciously control.

POLE POSITION

There are some truly cruel levels. For a long time, I was stuck on a busy freeway that has to be crossed without being murdered by a car. It brought back bad memories of *Frogger*. (Looking back, I regret any amount of time I spent playing *Frogger*, and maybe that'll be true of *Stilt Fella*, too.) My solution, in the end: forget about waiting for gaps in the traffic and just walk as fast as you can and hope for the best. Now I'm on a rooftop trying to stumble over boxes like the shittiest Boston Dynamics robot prototype ever made.

I know there's much worse ahead, such as a level that makes you walk in reverse. And there's an achievement for playing through all of the levels without falling once. That's a jar I'm leaving unopened: there's no kimchi in there. Only pain. ■



“It’s entirely about improvisation”

Embracing messiness in DEEP ROCK GALACTIC

▶ ROBIN VALENTINE



THIS MONTH
Dug too greedily
and too deep.

ALSO PLAYED
Hades, *Crusader Kings III*

I’m a huge fan of co-op first-person brawler *Vermintide 2*, but if there’s one thing I’d change about it, it’s

Grimoire and Tomes. These hidden items can be grabbed during each level, making progress more difficult but boosting your rewards.

The problem is that their inclusion makes any run where you don't pick them all up feel like a failure. It speaks to a larger issue with the game – one true of most co-op games that see you running the same levels over and over. Namely, that you are always on some level going for a ‘perfect’ run, one where you get the maximum pay-off as efficiently as possible. For some, that’s a pleasing goal – something to work towards through diligent practice. For me it’s too much like having a second job.

Deep Rock Galactic has helped me understand the problem. Casting four players as dwarf space miners, it’s a co-op game in a similar mould to *Vermintide 2*, though your goal is to gather minerals rather than see off rats. The twist, however, is that levels

are procedurally generated, each a sprawling delve that you’ve never seen before and never will again.

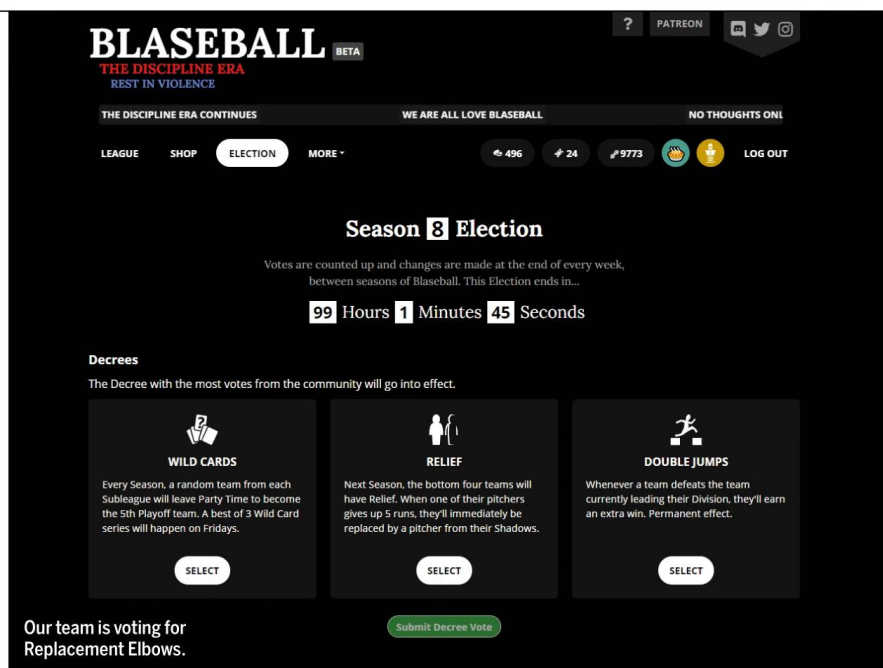
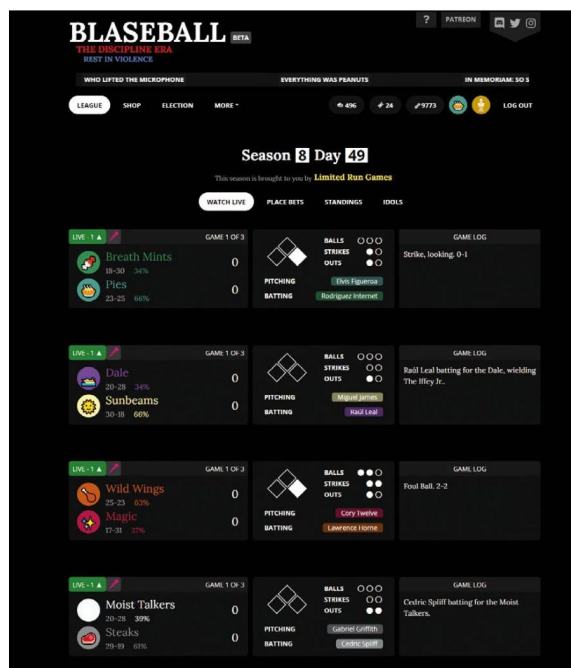
Though there is combat – against hostile alien fauna – it’s really a game about exploring and navigating unfamiliar spaces. The tools in your arsenal include guns, but also ziplines, grappling hooks, and drills. As you progress, you shape the environment around you – setting up escape routes, carving out defensive positions, and excavating resources.

Where in *Vermintide 2* and others, holding key details of each level in your memory is vital, *DRG* is all about improvisation. You never know what the algorithms are going to throw at you next, so you have to ever ready to adapt.

DIGGING IN

It’s an intense experience, but all of that pressure to do things exactly right is removed. There can never be a perfect run, because the levels aren’t designed, they’re grown. You never leave a mission disappointed that you didn’t achieve 100 percent success. You just do the best that you can in the circumstances, and move on to the next unknown space.

In other words, it doesn’t make messiness a vice – and to my mind, playing around with your friends should be allowed to be a little messy. I don’t want to game perfectly, I just want to have fun. The kind of fun that you find, apparently, at the bottom of a mine. ■



“To be aware of Blaseball is to be made complicit in its existence”

Diving into **BLASEBALL**, the internet’s latest sports obsession

The line between being aware of *Blaseball* and participating in *Blaseball* is remarkably thin. In fact, just by reading this, it is possible you are part of *Blaseball* right now. As a simulated sport, it mimics the same cultural osmosis that typifies most real sports. After all, as anyone who doesn’t really like football much can attest, to simply be aware of football is to be made complicit in its existence.

In its most base form, *Blaseball* is played through its website, where you can bet on the outcome of its simulated league games. You can pick a favourite team, and sit at your computer watching a play-by-play text feed describing each match. It is not unlike baseball: there are strikes and outs and foul balls and home runs. You can cheer when your favourite player hits a dinger. You can curse when your worst pitcher allows a walk. Crucially, though, you can also not. You do not need to understand baseball to like *Blaseball*.

Sometimes a player is incinerated by rogue umpires, because *Blaseball*, too, is a catalogue of Eldritch horror. At the end of each season, fans vote

PHIL SAVAGE



THIS MONTH
Tried to remember how baseball works.

ALSO PLAYED
Destiny 2

on rule changes that will go into effect the next week, and each has unfailingly made things weirder, and often more deadly. The first was to open the Forbidden Book, ushering in The Discipline Era. The second, called Peanuts, gave everyone peanuts, but also – eventually – led to the league’s most idolised players being encased in giant peanut shells, rendering them unable to play.

NINTH INNING

For me, the moment I stopped casually following *Blaseball* and started actively paying attention was seeing the machinations of fans, and watching as the developer used those

events as storytelling opportunities. In Season 6, which introduced the idol leaderboard, fans realised they could idolise dead players. Through coordinated voting, they manipulated the leaderboard so that Jayden Hotdogfingers – the first player to be incinerated – would occupy the 14th slot. This, it was theorised, would combine with the Lottery Pick blessing, which stole the 14th most idolised player for the team that won it – theoretically bringing Jaden back to life. It worked – Jayden was resurrected to play for the Seattle Garages. He has since racked up a bodycount, hitting players with pitches to give them the ‘unstable’ modifier, raising their chance for incineration. Through necromancy, the fans had created a monster.

Even then, I didn’t really ‘get’ *Blaseball* until I joined the Discord, hanging out in the chatrooms of my favoured Philly Pies. It’s here that *Blaseball*’s weirdness intersects with mundane sports fandom. Fans discuss stats, but also how they can get the accursed Betsy Trombone incinerated. Being a part of this chat still feels like participating, even if I’m not actively following a game. To be aware of *Blaseball* is to be made complicit in its existence. ■

YOU DO NOT NEED TO UNDERSTAND BASEBALL TO LIKE BLASEBALL

“There’s a real sense of space, of exploration, and of blissful isolation”

Hell is other people in **DEATH STRANDING** – even via video call

As I reach the crest of the hill, a great swathe of rock-strewn slope falls away in front of me. There is nothing but empty landscape ahead. Silence. Despite the hefty weight laden on my back and shoulders, I exhale serenely. I am Sam Porter Bridges, Amazon courier-cum-internet repair guy, and I am *alone*.

In real life, I genuinely cannot remember the last time I was completely solo for more than the hour or so it takes to make a grocery run or head out for a walk. Just like pretty much everybody else in the world, I’ve spent the past five months under varying degrees of lockdown – and while that’s meant minimal face-to-face time with anybody outside of my household, it’s also led to far more time spent within my household than ever before. There’s always somebody *there*, even if they’re in a different room.

Death Stranding is a marvellous bit of escapism from all that. As I trek from Knot city to Knot city, my gear stacked up high like I’m off to Glastonbury Festival, there’s a real sense of space, of exploration and of

EMMA DAVIES



THIS MONTH
Walked 500 virtual miles,
and 500 more.

ALSO PLAYED
Stardew Valley

blissful isolation. Hell, if Sam could strap a tent to his rucksack, I’d probably never return to civilisation.

I didn’t expect to like this game, which really is just trekking back and forth across a post-apocalyptic America on a fetch quest lasting tens of hours – not exactly an appealing sell – but I’m all in. If dropping off the occasional pizza or persuading folks to sign up for voodoo broadband is the price I have to pay for this vacation, so be it.

Codec calls are the bane of my delivery-man existence. Each time I hear the ‘bee-do-beep’ emanate from my wrist, I sigh and curse under my

breath. If I could put the damned thing into ‘do not disturb mode’, trust me, I would. By this point, I have spent so many hours in Zoom meetings, virtual quizzes, and video-call happy hours that I am familiar with each of my chins in intimate, front-facing camera detail. I do not need this permeating my gaming. No, I’m not interested in hearing what *fascinatingly* vague theory your research has dug up. I don’t care why this particular item needs dropping off more urgently than any other. I’m not listening as you tell me I’m America’s last hope. I just want to be left alone. *Please*.

EASY WAY OUT

In contrast, I heave a Pavlovian sigh of relief whenever a Low Roar track swells delicately through the speakers, the song name appearing at the corner of my screen. These musical interludes aren’t just a treat for the ears, they’re also a sign that for a few minutes, nobody will attempt to contact me, bandits will stay distant and ghostly boogeymen will remain in the afterlife. A signal that it’s time to relax and just enjoy those gorgeously rendered landscapes. Peace at last. ■

IF I COULD PUT THE DAMNED THING INTO ‘DO NOT DISTURB MODE’, TRUST ME, I WOULD



Climbing is bad for stamina but great for introversion.



As a remote getaway, this gets five stars on Tripadvisor.

GOLDEN LIGHT

A hidden gem of a horror game gets even better. *By James Davenport*

On paper *Golden Light* is a headache – a singleplayer prop hunt survival horror roguelike FPS. But please massage those temples and come on back, because dipping out on the bloated albeit necessary genre description would mean missing out on one of the weirdest horror games I've played in a long time. *Golden Light* is still in Early Access, but also fairly new and unknown, so before we dig into the latest update, I feel like I need to send out a broader update to the general readership: play *Golden Light*, because it's an amazing horror game, but especially because the latest update is so damn good.

Golden Light's primary goal is to get through as many floors of The Gut, an infinitely deep maze of offices and meat and monsters, as possible without dying, exploring for weapons, gold, skill modifiers, and the keys required to unlock the elevator to the next floor. The mission you're on is the hunt for someone, only referred to as 'Her', who was swallowed up by an interdimensional meat toilet. Hence flushing yourself down after Her.

But here's the big catch: enemies can take the shape of any physical object. (It's a little like *Prey* in that respect, but not too much else.) I've been stalked by books and houseplants, swallowed up by doors.

NEED TO KNOW

RELEASE
July 10, 2020

DEVELOPER
Mr Pink

PUBLISHER
In-house

LINK
bit.ly/3hVrm6r

I've been ambushed by a sentient sword with eyeballs disguised as a pile of rubbish. Not only are enemies pretty sturdy, but killing them damages your reputation with The Gut, and you wouldn't want to make an infernal office maze mad, would you? Running is usually the better choice, but rarely easy. Your enemies can hide as easily as you.

BACKSTREETS BOY

Death kicks you back out to the valley, a lush overworld where you can ride around on a talking bike and feed a golden tree to get the Gut's forgiveness. And as part of The Backstreets update – which adds a new biome, enemies, bosses, weapons, story bits, and even Twitch integration – a giant meteor crashed into the soil, a meteor with a face that calls itself Son. It also eats gold, though I'm hesitant to pay up. (99 percent of *Golden Light* is wading through entertaining nonsense. And I'm so utterly into it.)

Weapons aren't all that reliable either. Some weapons are alive, which means they'll probably have a few errant eyeballs and more importantly a special ability. I've had an axe (formerly owned by a clown

according to the item description in the game) that moaned and set enemies on fire. I had a revolver, also with eyes, that fired healing bullets. It wasn't useful against enemies, but I could turn the gun around and shoot myself for a quick burst of health. I'm really digging The Backstreets' new shield weapon type, which is the first of what I hope are many more primary items with a defensive rather than offensive purpose.

Secondary items can help or hinder depending on whether you toss them at enemies or chow them down, but there's no way to know what anything does until you try it. Because as you move between floors, finding keys and unlocking the elevator, the rules change too. A meat apple might poison enemies on one floor, or cast a love spell on them on the next floor. On one floor a gold tooth planted a patch of flowers and regenerated my health. On the next

GOLDEN LIGHT FINALLY FEELS LIKE AN EASY RECOMMENDATION

floor it set the entire room on fire, killing every hidden monster (and me). This ever-changing and somewhat unknowable randomness does ramp up the tension a lot.

The Backstreets update is so hefty an update that *Golden Light* finally feels like an easy recommendation, shifting the late game scenery from hallways lit by CRTs to rain slicked alleys overrun with garbage, reflecting sultry purple and blue neon light into every corner. The added story bits, including floor interludes that send you to a trashy apartment that gets dirtier with every visit, make a more complete, compelling story, too. Who am I looking for in The Gut? Is it a physical location or is *Golden Light* taking place in the player's rapidly deteriorating, unreliable mind?

It's more stuff than I'll be able to get through before the next update hits, which will add an 'ending' to the game, finishing up the story and allowing players to complete a run. Developer Mr Pink is always tweaking, balancing, and polishing. And it's harder to polish an eyeball than you might think. ■

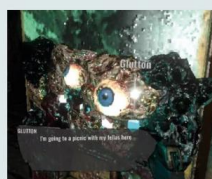
MEAT FRIENDS *The weird characters of Golden Light*



IKARUS
The best lever-pulling elevator guy.



SON
A massive head that wants some money.

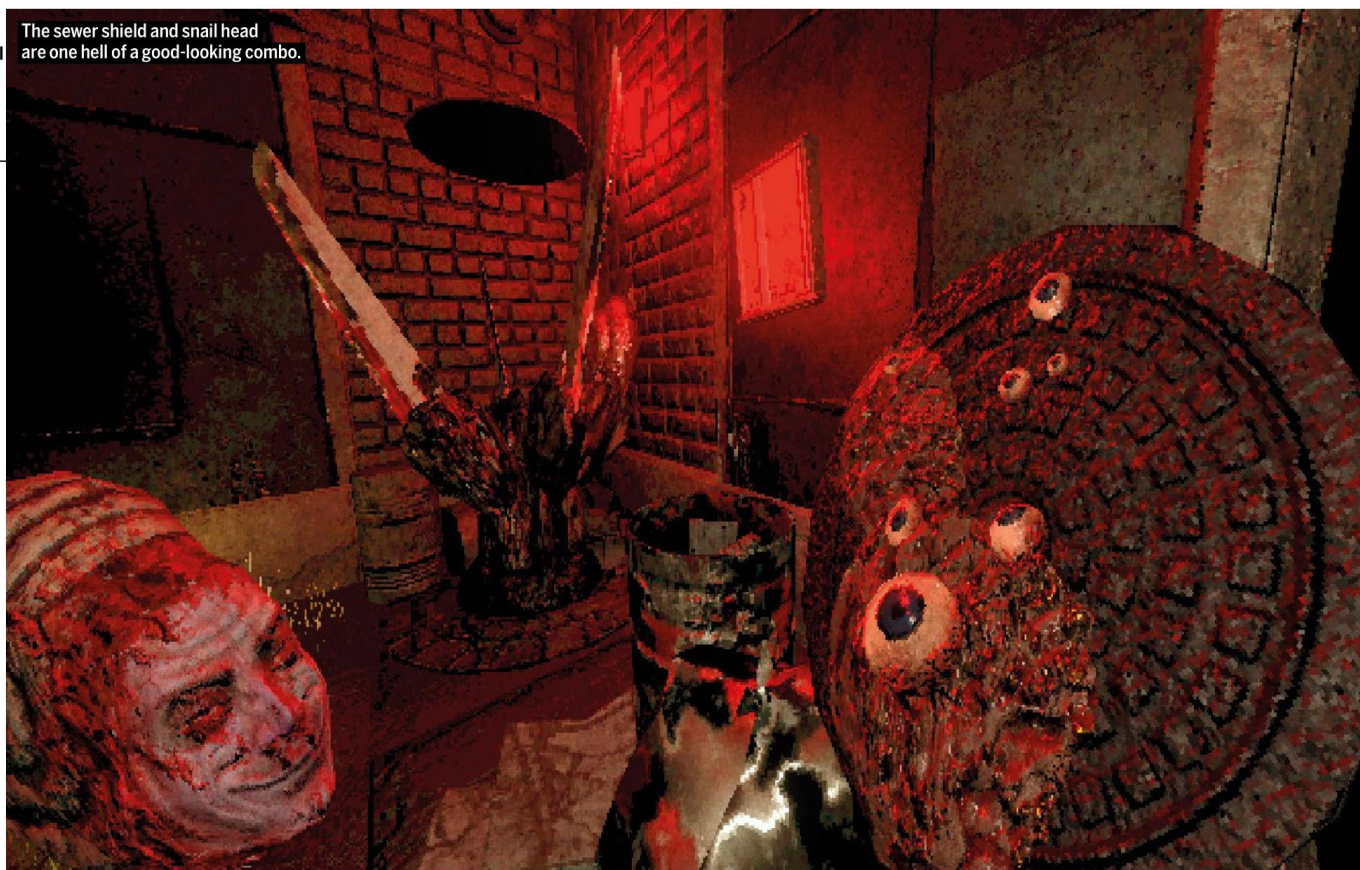


GLUTTON
A vending machine that needs a snack.



SNOUT
A friendly bike with a boombox.

The sewer shield and snail head are one hell of a good-looking combo.



Mementos are skill modifiers hidden around each floor.



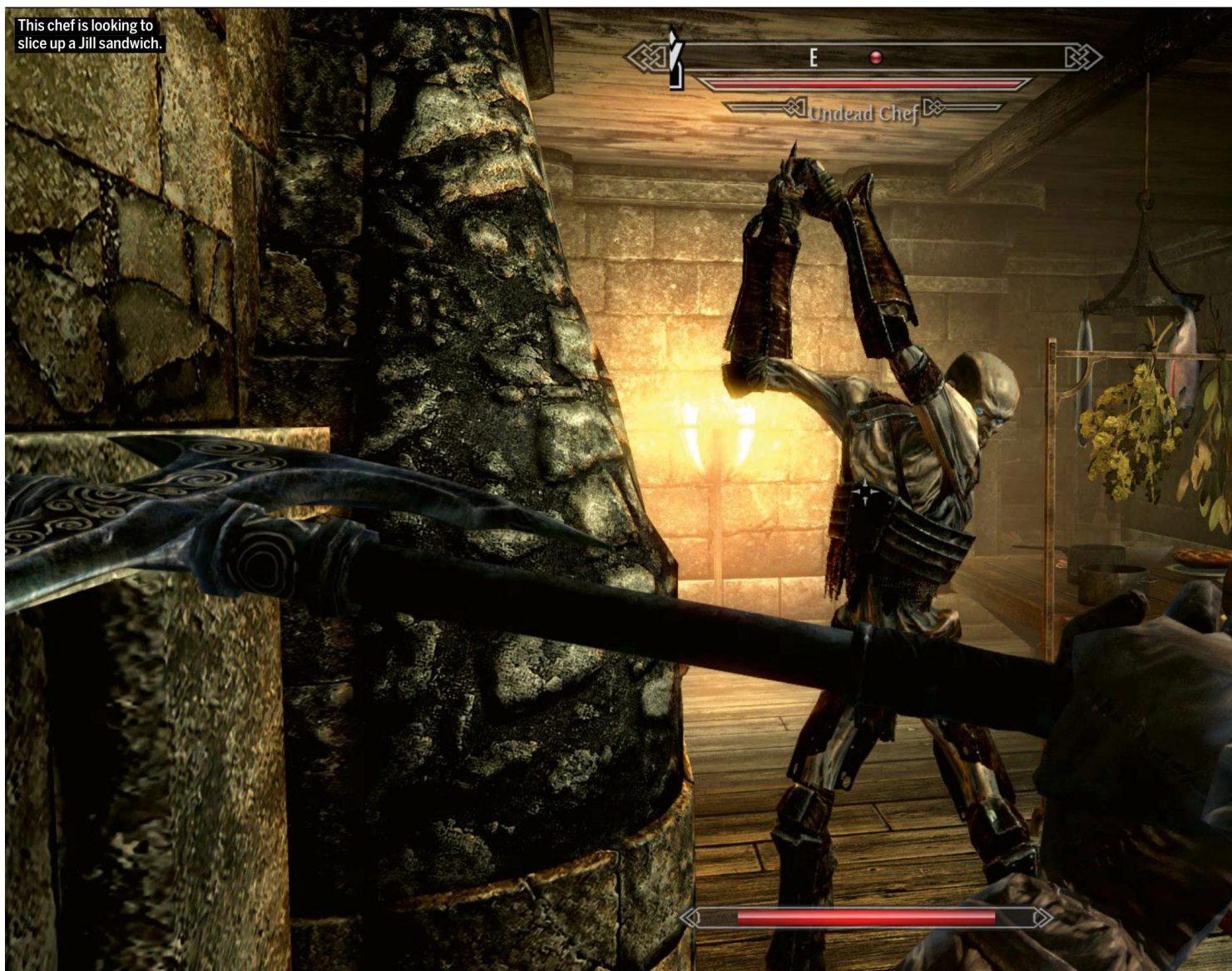
Kill a map and you can carry its dead body around and use it. As a map.



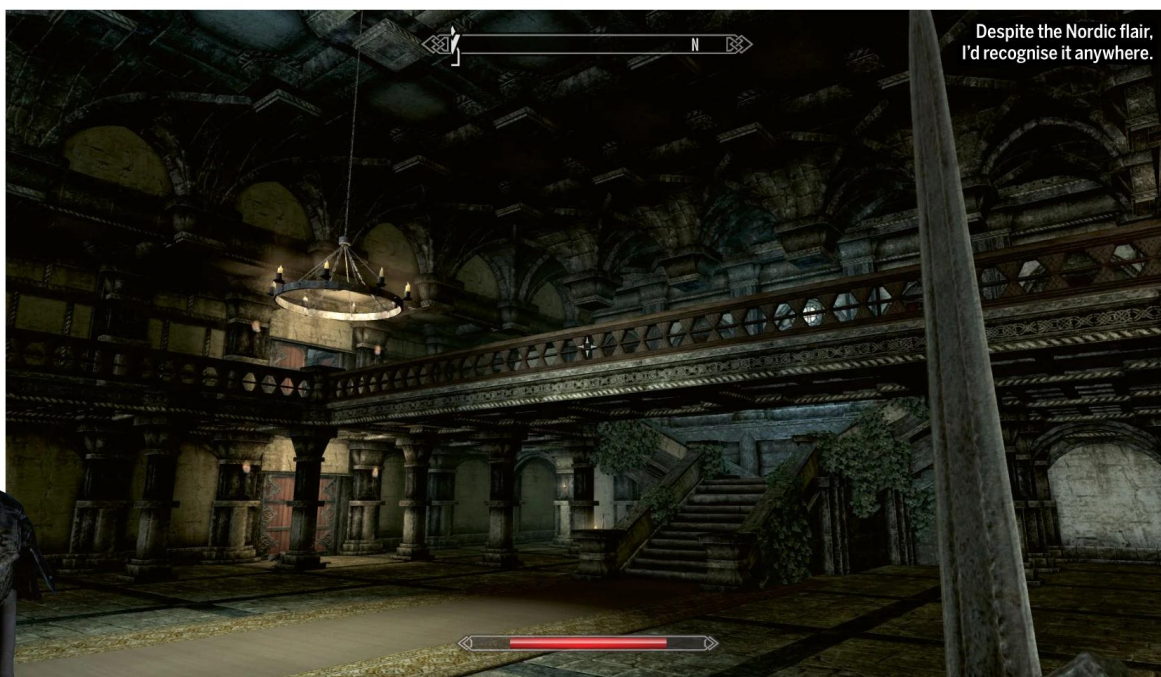
Ever disarmed a meat trap? It's... an experience.



This chef is looking to slice up a Jill sandwich.



Despite the Nordic flair, I'd recognise it anywhere.





THE EVIL MANSION

Resident Evil's Spencer Mansion reimaged as a *Skyrim* challenge. *By Lauren Morton*

I've watched more than one friend play through the original *Resident Evil* thanks to the wonders of game livestreaming, but I've yet to ever touch it or any other game in the series personally. I approach horror games much like I approach a cold pool: one toe at a time, with a horrible grimace on my face, before I scamper away to find a chair in the sun because I'm quite happy out here actually, thank you.

Since Tamriel is undoubtedly one of my gaming happy places, it seems only right that I should experience *Resident Evil* firsthand as a giant *Skyrim* mod. *The Evil Mansion* (which has versions for both *Skyrim Special Edition* and traditional *Skyrim*) is a recreation of the Spencer Mansion complete with traps, respawning undead enemies, and a whole host of puzzles. I may not often be up for true horror and jump scares, but this I knew I could do. I whipped up a passing version of Jill Valentine the Imperial for *Skyrim's* tutorial before boosting her up with a couple levels and skills via console commands and setting out for the mansion north of Morthal.

KEYS TO THE CASTLE

Spencer Mansion is immediately recognisable, inside and out. When I finally get Imperial Jill through the fog-shrouded front door, my first thought is 'oh dear'. I've seen this entry before, but how close it will hew to the secrets and dangers of the original I'm not yet sure. It's huge, lined on two floors with moss, which is new, but all the same doors I remember. It's empty of enemies now, but I know any one of the rooms I choose to visit could have a horrible surprise waiting for me.

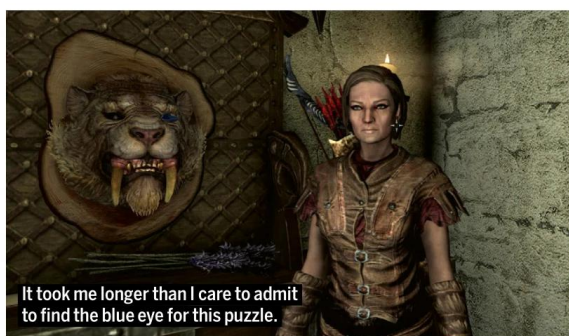
I choose the left door on the first floor, remembering that it should be the mansion's dining room. It is, and



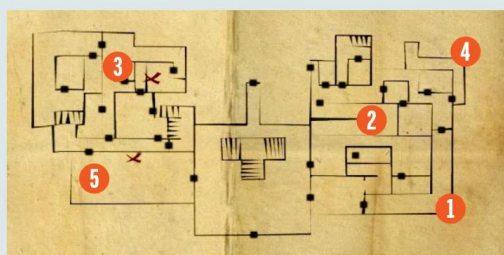
UNLIKE PROPER RESIDENT EVIL, I DON'T HAVE TO WORRY ABOUT MANAGING AMMUNITION

lucky for Jill it's mostly empty with just one red-robed wizard. Unlike proper *Resident Evil*, I don't have to worry about managing ammunition, so I'm able to cut him down without much trouble. Over by the hearth is a familiar blood stain. I sure hope that isn't Chris' blood. In the next room, a tougher Undead Scourge is waiting with a mean axe and a lot of health. It hacks Jill to pieces. I suppose I should have prepared her with something other than the starter Imperial armour. Ah well.

I decide to check out the opposite side of the mansion, because I am a coward. Fortunately, a map of the mansion's first floor is waiting for me on a table. Wow, it really is a faithful recreation of the Spencer Mansion. Two red X's mark what I imagine are



DEJA BOO Rooms to recognise from Spencer Mansion



- 1 Notorious dog hallway
- 2 The gallery of traps
- 3 A mounted tiger head
- 4 Even more dogs
- 5 I really hope this is not Chris' blood

keys. One is in the room I've just come from. Well, that's Jill's work cut out for her then.

Behind the main staircase, on the first floor is a small hall leading down a flight of stairs. Naturally I don't spot the pressure plate trap at first, and Jill is sliced to bits a second time. I don't mind at all though, because if there's one thing I know how to do it's cheese my way through a *Skyrim* dungeon. I confidently head back to the Scourge from before, leading it with ease down to the back hallway. Now that I'm prepared, Jill leaps over the pressure plate while the axe-wielding Scourge behind me thoughtlessly triggers it and topples down the staircase dead. From this point on, you can safely assume that about half of the enemies I encounter are being dealt with properly and the other half are being led on a merry chase to the murder hall.

With a surefire strategy in my pocket and a map in my inventory, I get to work luring undead to their demise while I poke my way through rooms looking for clues. Even though I'd managed to forget a good number of *Resident Evil*'s puzzles, hints begin jumping out at me.

Unlike a typical *Skyrim* quest, *The Evil Mansion* doesn't plop a quest marker on your radar, and thank goodness for that. I've long tired of being told exactly where to go and don't mind stumbling around a bit to figure things out. The floor maps left around the mansion as notes are my one guide, telling me which rooms are hiding keys, though not which puzzles may uncover them.

As I adventure deeper, the mansion gets creepier. The basement and the laboratory are both included, full of their own keys and clues. Alas, my kill hallway strategy only lasts me through the first half of the encounters. Jill and I both have to pull on our big Dragonborn britches for the remainder.

The Evil Mansion is undoubtedly familiar, sometimes in a passing fashion and other times with a strong sense of déjà vu. Of all things, it was one of the outer courtyards where two Cerberus hounds waited for me that I was stopped in my tracks feeling that I'd seen this very place before. It's an impressively faithful recreation working within the bounds of *Skyrim*.

PAR FOR PUZZLES

Make no mistake, *The Evil Mansion* has a *Resident Evil* veneer but does not rearrange the *Skyrim* bones beneath to any great length. The traps are *Skyrim*'s. The stamina-based hack-and-backstep combat is *Skyrim*'s. All the decor and bits of clutter are from Tamriel, however



JILL AND I BOTH HAVE TO PULL ON OUR BIG DRAGONBORN BRITCHES FOR THE REMAINDER

artfully arranged they are to honour the dark mansion in Raccoon Forest.

There's less pressure that way, saving whenever I want and constantly staying flush with arrows. Instead of the slow and hard-earned progress of survival horror from the original *Resident Evil*, *The Evil Mansion* is more like a fun house of puzzles with the occasional undead combat interlude. That is to say, perfect for me. *Skyrim*'s combat has never been a strength in my book, so the focus on exploration and puzzles here is a wise move.

The puzzles are nothing revolutionary, of course. There are hidden levers and switches to reveal keys which give you access to new rooms in the mansion. There are items to pick up and place in correct

places. Buttons to press in the correct order. They're a comfort food – simple treats that I'm happy to eat three nights straight. The real fun of it is memorising the mansion itself and mentally cataloguing the location of each puzzle without having to glance at the handy map note. Happening upon a door you hadn't spotted to find an item that you're pretty sure goes to that puzzle in that other room is a joy, almost like an adventure game with a bit of *Skyrim* combat for seasoning.

You'll recognise a few of the puzzles from *Resident Evil* as well. There's a room with a puzzle featuring suits of armour that's plenty familiar. Swapping golden and wooden emblems in the original becomes gold and wood warhorns in Tamriel. Likewise the gallery trap room where you touch certain paintings is reimagined as shields with heraldry from around *Skyrim*.

There are the occasional frustrations where puzzles are concerned, though. As a *Skyrim* mod using many of the game's original items and decor, it's not always clear when something is just sitting around or whether you're meant to take it as a clue. I'll not spoil all the puzzles, but one example in particular comes to mind. A stuffed sabre cat head hangs on the wall in a room on the first floor with a note hinting that you'll need one red and one blue gem to serve as its eyes. I'll save you the trouble by telling you that no, the Flawless Rubies you can find around the mansion are not what you need.

Despite the small frustrations, I rarely found myself stumped. Most keys open multiple doors, so the rate at which I discovered new rooms and puzzles easily outpaced my ability to solve them. Most often I'd have more than one unlocked but unexplored room tucked in my memory, leaving me lots of loose ends to chase.

Once you encounter the mansion's final fight in the laboratory, the mansion also becomes a player home to decorate as you will. How lovely for Jill, after all that drama. There are also vendors and companions to unlock throughout the adventure who will mill about the mansion once you've cleared it out.

The Evil Mansion is *Skyrim* to its very core, making it the perfect way for an RPG fiend like me to finally go hands on with *Resident Evil*. For those that are more intimately acquainted with the original, I suspect its love letter to Spencer Mansion will be a sweet little spinoff, even if not quite as sweat-inducing as the original once was. ■

MANSION MIRAGES Other spooky Spencer recreations



MINECRAFT

This build by MoltenPanther is a much bigger undertaking than you can tell from the entry hall. It's a huge build that recreates a majority of the mansion in *Minecraft*'s chunky style.



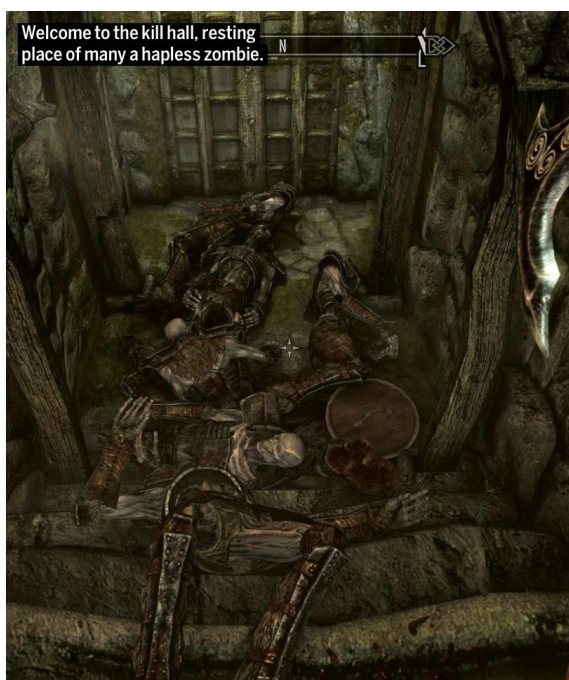
THE SIMS 4

Veronica55's *Sims 4* house may not be as spooky as the original, but it's definitely decorated to suit the original mansion's layout. Even the plant room makes an appearance.



RESIDENT EVIL 4

A fan game project by Mr Curious rebuilds the Spencer Mansion in *Resident Evil 4*'s engine, complete with a moving camera instead of the fixed angles of the original.





SNAG THE FALL GUYS CROWN

Tips for the bumble royale's toughest stages to help you prevail. *By Harry Shepherd*

NEED TO KNOW

DIFFICULTY
Easy

TIME
Two hours

VITAL LINKS
Server status guide:
bit.ly/3hJHEzY

Item shop update:
bit.ly/3gPA5qi

Latest patch notes:
bit.ly/3jzSRDU



DOOR DASH

1 Success in Door Dash is a fine balance: hang back far enough to let others find a viable route, but not so far as to get stuck in an immovable blob of rival players trying to do the same thing, and you'll soon get through it.



SEE SAW

2 The trick here is patience. Instead of rushing onto your next teetering platform, wait and see how the inevitable pile on of players around you affects it. Taking a slower, sensible approach should mean you fall to your doom less often.



SLIME CLIMB

3 One of the hardest minigames in *Fall Guys* is best played straight. There are shortcuts, like the triangular trampolines early on, but these route skips are known well enough that many will attempt it, so it pays to keep things simple.



FRUIT CHUTE

4 A little like the nightmares I had after playing too much *Fruit Ninja*, Fruit Chute can be intimidating. It isn't if you avoid the centre and stick to the sides of the conveyor belt, using the patterned pink pyramids as cover.



ROLL OUT

5 The key to Roll Out is to never stand still: the pin rolls in opposing directions at once, and dawdling is a one-way ticket back to the title screen. You should also avoid the majority of other players, especially the cuddly ones.

TIP TOE

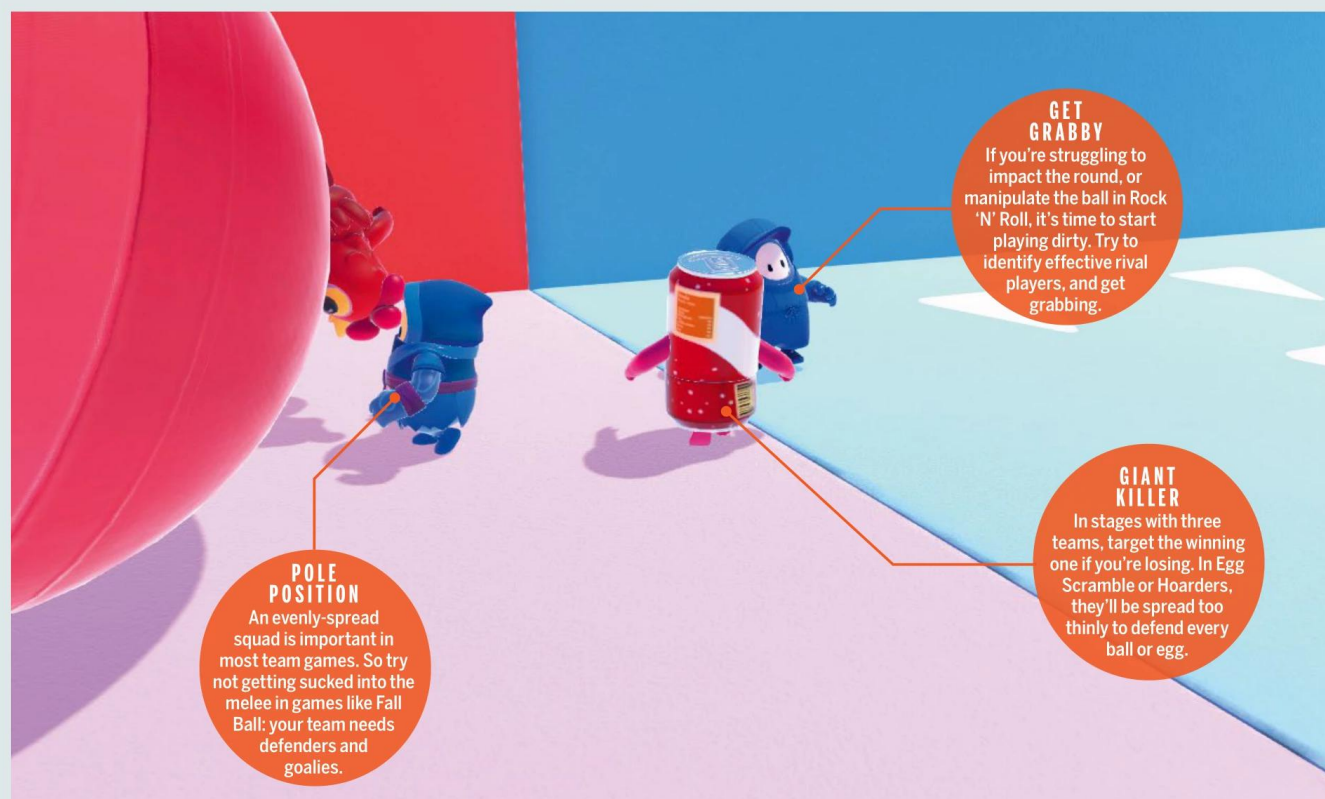
6 If you fall in this tricky stage, don't panic. So long as you're with the final pack towards the end, respawning a couple of times won't matter. As with Door Dash, hang back, but not far enough to fall too far behind.



THE WHIRLYGIG

7 The Whirlygig punishes you if you have the hubris to head through the central, malevolent propeller at the end. Your best bet is to go around and jump past the horizontal spinners. If you're lucky, they'll hit you in the right direction.

TEAM SPIRIT *Claim the crown, even with an unskilled crew*



DIZZY HEIGHTS

8 Here, head in the direction the spinning plates are pointing, and jump a split-second early so the momentum carries you. Also, don't forget you need to jump to clear the obscured gap once you've scaled the slope at the end.



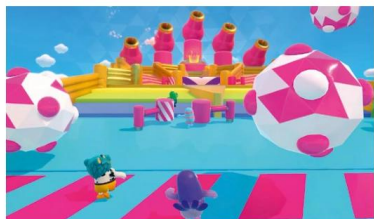
GATE CRASH

9 It's easy to let frustration get the better of you in Gate Crash, but waiting for your moment to jump is much quicker than thoughtlessly jumping. Wait for gates to be on their way down before you make your move.



JUMP SHOWDOWN

10 As you'll have such little space on this final stage, it's crucial you avoid grabbers. Also, platforms fall away at random, so stay on the edges of intact ground so you're ready to take evasive action and land safely.



FALL MOUNTAIN

11 The tiniest mistake or bit of bad luck here can make the difference between you taking the crown, and leaving empty-handed. Weave between walls and watch for balls hitting the spinners, so you can anticipate the best path.



BLOCK PARTY

12 While it's tempting to stay near the back of the group when incoming obstacles appear to give you plenty of time to evade them, you may be caught by players hit by the moving blocks. Stay away from the others as far as possible.

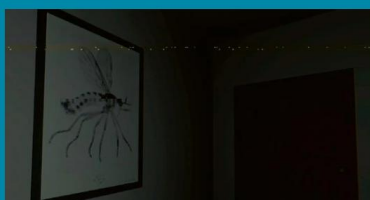


WHY I LOVE

WHAT MAKES GAMES SPECIAL

THE SUBTLE DOMESTIC DREAD OF ANATOMY

This lo-fi indie game turns quarantine into a waking nightmare. *By Steven Messner*



RIGHT: The darkness in *Anatomy* is oppressively creepy.



When I was a kid there was nothing more terrifying than a dark basement. I vividly remember the dread I'd feel having to go down into the darkness to fetch something, those awful steps between the edge of the upstairs light and the basement light switch that loomed just in the darkness. Each time I'd head upstairs, I'd hit that switch and scramble for the steps – scared that whatever might be lurking in the darkness would grab me if I were too slow. That was all a funny memory to me as an adult, but then, a few years ago, I played *Anatomy* by indie game developer Kitty Horrorshow. All those fears came flooding back, and it took me weeks before I felt comfortable being alone in my own basement.

Just like the basement in my childhood home, though, *Anatomy* shouldn't be a game that scares me as much as it does. The idea is simple: you explore a dark, empty suburban house collecting cassette tapes that you play on a recorder found in the kitchen. The whole thing is presented through the lo-fi noise of a VHS tape, giving the oppressively dark hallways and mundane furniture of the home a hair-raising sense of movement as they jitter and distort ever so slightly. It's creepy, but it's not exactly the stuff that makes 30-year-old me scared. But that's the genius of *Anatomy*: it slowly worms its way under your skin, scratching away at your sense of safety until dining tables, windows, and beds all begin to look a lot more sinister.

As you find new cassettes and play them back, you listen to the garbled recording of what could be a professor spelling out a thesis on the role houses have played in human

HAUNTED HOUSE *The three spookiest homes in videogames*



RESIDENT EVIL 7

The Baker's dilapidated mansion is one of the most well-paced and well-made sequences of any horror game. It's a dreadful, rancid place filled with twisting passageways.



P.T.

This infamous demo for the never-to-be-released *Silent Hills* is a single, looping suburban hallway that packs in more scares than most games in their entirety.



LAYERS OF FEAR

Like *Anatomy*, *Layers of Fear* toys with you as you explore the ever-changing halls of the mansion where it's set. Unlike *Anatomy*, *Layers of Fear* doesn't go for subtlety.

history. Things quickly get unsettling though, as the narrator segues into a detailed comparison of the house and the human body: the windows are its eyes, the hallways its arteries, the dark basement our roiling, murky subconscious. And as the comparison continues, the house you explore begins to change. It's subtle at first, but by the time I reached the true ending this empty, normal house had become something much worse.

CLOSE TO HOME

The first time I finished *Anatomy* years ago I couldn't be alone in my basement for days. Suddenly every shady corner felt menacing, every piece of furniture sinister. I was six years old again, turning off the lights and hurrying upstairs, never lingering. I even had trouble sleeping because one of *Anatomy*'s cassettes cruelly observes how odd it is that we spend countless hours asleep in our beds every night trusting that our house will keep us safe. But can we trust our house? Can we really be sure that during those long, dark hours, something doesn't enter our room and watch us?

When I revisited *Anatomy* again this year, however, I found it to be even more disturbing. Like a lot of people, I spent weeks and months effectively trapped inside my own house because of local quarantines due to the COVID-19 pandemic. There's no way that Kitty Horrorshow could have anticipated

how terrifyingly relevant its little indie game would become four years after its initial release. Today, *Anatomy* is scarier than ever.

Locked inside with nowhere else to go, I could better understand my own house through the upsetting lens of *Anatomy*'s narrator. One night I woke up to go to the bathroom and saw my wife's elliptical exercise machine silhouetted in the dark, its handlebars twisted upwards like horns. It scared me so badly I couldn't sleep after.

I EVEN HAD TROUBLE SLEEPING BECAUSE ONE OF ANATOMY'S CASSETTES

But this is exactly why I love *Anatomy* so much. While there's no shortage of excellent horror games, the genre still largely relies on grotesque monsters and violence. Those threats are often horrifying, but their otherworldliness means that as soon as I step away from the game the spooky illusion they create begins to quickly fade. But *Anatomy* is a rare game that twists everyday objects into new and unsettling shapes. It takes the simple pleasures of a life spent indoors and forces you to see it as something to fear. Your house is meant to be the safest place you can be, and *Anatomy* brilliantly perverts and poisons that expectation. ■

NEED TO KNOW

RELEASED
2016

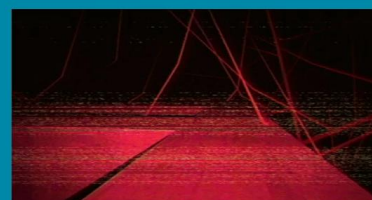
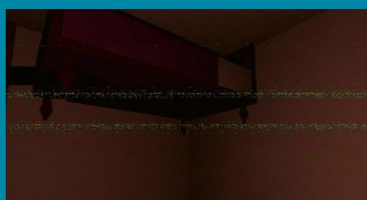
EXPECT TO PAY
£2.30

OUR REVIEW
N/A

LINK
kittyhorrorshow.itch.io/anatomy



RIGHT: *Anatomy* quickly begins to feel profane and deeply wrong.





REINSTALL

OLD GAMES, NEW PERSPECTIVES



Men are made into Swiss cheese,
melted, chopped, and baked

Waterfalls of Orks
spill over the walls.



WARHAMMER 40K: SPACE MARINE

I read one Warhammer book and now I'm that guy. *By James Davenport*

Looking back, my life divides cleanly into two distinct halves. Forget puberty, forget wrapping college, teaching high school, and moving across the US for a PC Gamer internship. Forget all those broken bones and all that kissing and crying. It's just pre-Warhammer 40K James and post-Warhammer 40K James now. There's old *Gears-of-War's* chainsaw-executions-are-incredibly-nasty James, and James, born again, who considers flinging around the arterial muck found within dissenters of the Space Marines an absolute, genuine art.

It's why a game like *Space Marine* (*Chaos Marine* sequel ASAP please), once disregarded as some action

figure shooter cash-in, hits so well even all these years later. So many of us skipped right over a classic, but if your journey was like mine, I totally understand why. I bounced off it way back in 2011, but even after reading one Warhammer 40K novel, it's a much more enjoyable game.

HAMMER TIME

My first experience with Warhammer 40K was about a decade ago when I picked up the *Dawn of War* RTS games in a Steam sale. I had no attachment to the source material, just the vague notion that what I was looking at was clearly a *Starcraft* rip-off (little did I know the opposite was actually true). From that point, I would recognise whenever another 40K game was incoming, taking note of the leisure with which Games Workshop tossed the licence around.

Most games were just OK from what I gathered, so *Warhammer* games started to become white noise to me.

Skip ahead to 2020: a pandemic is on, I just moved and can't really get out there and shake hands quite yet, so I've been reading just about anything a coworker sets in front of me. Simon Spurrier's 40K novel *Lord of the Night* ended up near the top of the reading list, so senior reporter Steven Messner and I decided to take the 40K plunge together. Before going in I thought Warhammer 40K was a thin sci-fi foundation of clichés to give the tabletop game some

NEED TO KNOW

RELEASED
September 5, 2011

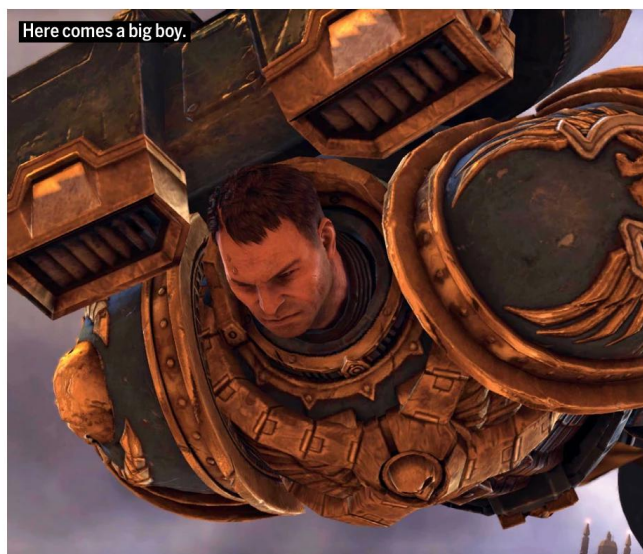
DEVELOPER
Relic Entertainment

PUBLISHER
Sega

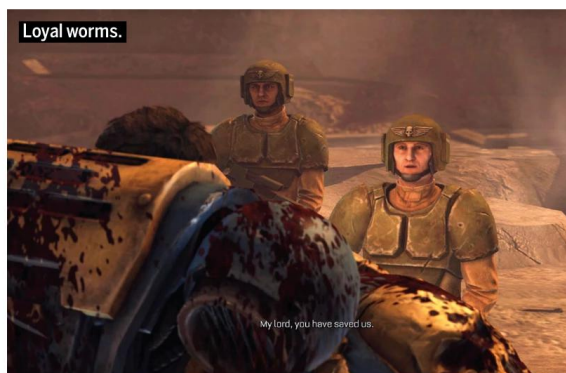
LINK
bit.ly/3mnW63m



How Space Marines hug.



Here comes a big boy.



Loyal worms.

My lord, you have served us.

greater stakes, and it might still function as that for some people, but good lord, I'm not sure I've read anything so hyper violent that feels designed with the aim to joyfully bully fascists and toxic masculinity.

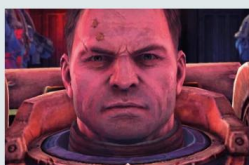
And like Redwall's pages-long feasts in which every dish is detailed from top to bottom, texture to smell to taste, the same word counts are applied to describing what happens to a man when he's pressed through metal grating or sliced from tip to toe by impossibly sharp bladed gauntlets. Men are made into Swiss cheese, melted, chopped, baked – the violence is so grotesque and indulgent that it just becomes comedic. Paired with a sociopolitical culture that places loyalty, power, infinite capital gain at all costs, and total emotional repression at the fore, and you get galactic wars spanning millennia that are largely driven by greed and petty male bullshit. It's amazing. I don't think I've cackled so much reading a book.

With fresh eyes dripping with gore, I knew I had to revisit the pile of unplayed 40K games in my Steam library, and *Space Marine* was at the top. *Space Marine* plays on the

surface of the 40K universe, rarely spending time developing characters or building out big, important story arcs – it feels like a fan game, and even though my knowledge of the history of the 40K universe is thin, I'm a fan now, but it's clear why I glanced off so easily when it was

MAD LADS

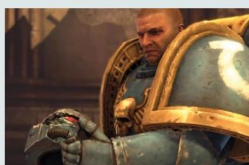
The four emotions of Space Marines



MAD



MAD AND OLD



MAD AT HELMET



THINKING 'BOUT HIM
(THE EMPEROR)

released. Without the ability to nest *Space Marine's* narrative in the self-aware, satirical context it's built on, there's not much to grab onto unless you're just in it to gut Orks.

ORK-WARD

So when you see an Ork explode for the first time in *Space Marine*, Relic's attempt at a 40K third-person action game, that flat, misty particle effect takes on new life if you've even dipped a toe into the extended universe. Every time Captain Titus, the protagonist in *Space Marine*, belts out praise to the Emperor or salutes a fellow marine near death in blind, horrific allegiance to some mega powerful sad boy entity, I'm hooting. Every time we cleave an Ork in two or crash down on a horde from 50 feet in the sky during a jump pack segment, I'm hollering. *Space Marine* is a fantastic, indulgent action game, but even more so if you've done the extra-curricular reading.

And now that I have a runway, I can finally appreciate what a unique game *Space Marine* actually is and how it was directly in conversation with *Gears of War* at that series' peak popularity. When waist-high cover

Warhammer 40K's Orks don't break new ground, but they do break.



SPACE MARINE IS A FANTASTIC, INDULGENT ACTION GAME

systems were all the rage, *Space Marine* was a game that looked like *Gears of War* at first glance, but threw the cover system in the trash. The Space Marine is the cover in *Space Marine*, and regenerating health uses a system that feels a lot like the early inspiration for *Doom 2016*'s Glory Kills.

When your health gets low, you're encouraged to run headfirst into a crowd and perform special execution moves to get a chunk of health pack. It's a system that perfectly suits the interplay between ranged and melee combat, embracing the godly power of each Space Marine while making for a fascinating shooter based on crowd management.

PEST CONTROL

Early on, combat is a lot of thinning legions of little Ork grunts into mist with chunky



weapons like a heavy bolter before the horde inevitably closes the gap and surrounds you, at which point you need to whip out the chainsword and rinse the rest away with powerful, effortless swipes. The little Orks are like bugs, but some of the bigger enemies require well-timed dodges or attention to specific weaknesses. Later on, you'll often get rushed by a horde, then flanked by snipers from all angles while bigger enemies trickle in. Unpicking each encounter requires constant attention to enemies at every distance, and the combat supports seamless movement between shooting and melee attacks, truly supporting the fantasy of being an adept superhuman soldier who's done this dozens of times over.

Things get especially good later in the campaign when the Legions of Chaos show up. By then you've built up a pretty thorough arsenal too, including the Meltagun, a short-ranged weapon that spits out a 1,000°C beam of liquid light, or the Thunder Hammer, which stores kinetic energy in the head and releases it on impact. I'm almost annoyed with how ga-ga I go for every scrap of excess in *Space*

Marine, but in these difficult times where we so often feel powerless, wielding a hammer that could flatten a tank only feels fair.

But *Space Marine* hasn't aged perfectly. Please forgive the narrow corridors. Forgive the ugly UI that doesn't scale nicely. The environment variety and texture variety is limited, too, broadly reflecting the Brown Era of Xbox 360 and PS3 shooters. Those muddy browns and greys are pretty ugly blown up at modern PC resolutions too, though I'm sure a Space Marine would appreciate the drained utilitarian colour palette. All colours must bow to the emperor.

Now that I know a good portion of Warhammer 40K is just an excuse to watch fascists give themselves a wedgie in geopolitical slow-mo, I'm game for just about anything 40K, and *Space Marine* is a fantastic follow-up to my first book. I'm eyeballing those *Dawn of War* RTS games now, too, though maybe I'll get a few more books down first. And if you're still not sold on the universe, well, if you've ever been so mad at how cartoonish *World of Warcraft* looks that you wished you could stab it, *Space Marine* might do you right. ■

RACHEL WATTS



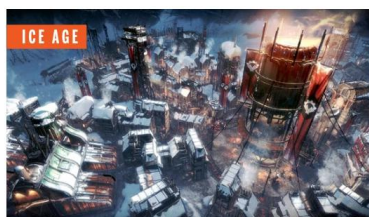
After a brutal battle royale for my attention, here are the top eight winners. Cherish them before they are cast back into the games library fight pit.



KENTUCKY ROUTE ZERO

kentuckyroutezero.com

→ Part point-and-click adventure, part astral projection, *Kentucky Route Zero* tells the story of a group of wanderers as they travel across the roads of America's lost highways. A surreal and dream-like journey that you won't forget. It also got me into ambient whisperwave music, which makes me five percent cooler.



FROSTPUNK

frostpunkgame.com

→ This bleak gem took my bleeding heart and encased it in a block of solid ice. It's a tense survival game-meets-city-builder that forces you to make cruel choices to keep what's left of humanity alive. Look, my approach to child labour laws may be a little suspect, but that's just the price of staving off the cold.



SPIRITFARER

thunderlotusgames.com

→ A thoughtful life-sim about death. As the ferryman to the dead, you're responsible for helping spirits pass on into the afterlife, and supporting them as they reflect on their past lives. It's a game that handles death with a wonderful compassion and openness. No, I'm not crying. You're crying.



CREAKS

amanita-design.net

→ Amanita Design has gone a little creepy with its newest miniature adventure. In *Creaks*, you explore a mansion solving its puzzle rooms and trying to avoid deadly furniture monsters. An eerie experience that still keeps the studio's whimsical charm – and it will be stuck in your head for weeks.

MUST

PLAY

**A PERSONAL LIST
OF THE BEST
GAMES YOU CAN
PLAY RIGHT NOW**

by Rachel Watts



HADES

supergiantgames.com

→ I would battle through the depths of Hell to play a new Supergiant game, and *Hades* lets me do exactly that. It's a rogue-like dungeon crawler that gives the gods of ancient Greece a whole lot more attitude (as if they needed it), all encased in Supergiant's gorgeous signature artstyle. PS Athena is the best.



SHERLOCK HOLMES: CRIMES AND PUNISHMENTS

frogwares.com

→ I love detective games, but for ages I overlooked the *Sherlock Holmes* series. I need to reevaluate my life choices. *Crimes and Punishments* is a fantastic head-scratcher with six investigations that challenge you to do real deductive work. One of the best in the genre.



SIGNS OF THE SOJOURNER

echodoggames.com

→ The unusual approach to dialogue is enough of a reason to check this one out. It's a deck-builder where conversations are carried out through cards – you can either match cards that pair with the outlook of your partner, or play different cards to highlight your own perspective. Super creative.



OOBLET

ooblets.com

→ Glumberland's cute creature collecting game takes the farming of *Harvest Moon*, turn-based battles of *Pokémon*, and relaxed close-knit community life of *Animal Crossing* to create a cheerful, cosy game. An unexpected side-effect of playing for too long is that I have now mastered the art of Ooblet interpretive dance.



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DISTRIBUTED BY Marketforce, 5 Churchill Place, Canary Wharf, London, E14 5HU | Tel: 0203 787 9001 | www.marketforce.co.uk

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ISSN: 1351-3540

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